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DARIOSH STUDIES II

PERSEPOLIS AND ITS SETTLEMENTS: TERRITORIAL SYSTEM AND IDEOLOGY IN THE ACHAEMENID STATE

edited by

GIAN PIETRO BASELLO and ADRIANO V. ROSSI



UNIVERSITÀ DEGLI STUDI DI NAPOLI "L'ORIENTALE"
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Foreword

This is the second volume of the series DARIOSH *Studies, published by DAAM (Dipartimento Asia, Africa e Mediterraneo), Università degli studi di Napoli "L'Orientale" with the financial support of the Italian Ministry for Education and University (PRIN 2005105580, PRIN 2007ZKPPSM and PRIN 2009JHSEE7) jointly with ISMEO/*ASSOCIAZIONE INTERNAZIONALE DI STUDI SUL MEDITERRANEO E L'ORIENTE*.*

DARIOSH (Digital Achaemenid Royal Inscription Open Schema Hypertext) is the denomination of a joint Italian-Iranian project, established in the early 2000s by a cooperation between the NATIONAL MUSEUM OF IRAN*, the* PARSA-PASARGADAE FOUNDATION *and the* ISTITUTO ITALIANO PER L'AFRICA E L'ORIENTE *(*IsIAO*, now dissolved and scientifically continued by ISMEO/*ASSOCIAZIONE INTERNAZIONALE DI STUDI SUL MEDITERRANEO E L'ORIENTE*).*

The Project is based at L'Orientale University of Naples, with the collaboration of La Tuscia University of Viterbo, and aims at the study of the trilingual corpus of the Royal Achaemenid inscriptions through a complete catalogue of the epigraphic units (with a new high-resolution photographic documentation) and an interlinguistically integrated edition of the texts (with translation, commentary and cross-linguistic dictionaries), both on-line and in print.

While the first volume of the series was dedicated to the illustration of the methods used in the new edition, translation and commentary of the Royal Inscriptions which will be carried on in the further volumes as soon as groups of inscriptions will be ready for publication, the present volume contains the Proceedings of a Conference held at La Tuscia University of Viterbo on the theme: "Territorial System and Ideology in the Achaemenid State: Persepolis and its Settlements" (16th-17th December 2010).

The Conference was summoned to discuss the final results of the National Research Project (PRIN 2007ZKPPSM) on "Territorial system and ideology in the Achaemenid State: Persepolis and its settlement", in which three Research Units have participated: "Persepolis in the archaeological, epigraphic, lexicographical

documentation", directed by Prof. A.V. Rossi at L'Orientale University; "Persepolis, the Mazdean Cult and the Achaemenid Kingship", directed by Prof. A. Panaino at the University of Bologna, and "The political discourse in the Achaemenid state: linguistic and lexical studies on Persepolis trilingual inscriptions" directed by Prof. E. Filippone at La Tuscia University.

The Viterbo Conference was particularly centred on Persepolis, also because an Iranian-Italian archaeological Mission (directed by Prof. P. Callieri, University of Bologna) is active there and the epigraphic team of DARIOSH *(directed by Prof. A.V. Rossi, L'Orientale University and Prof. E. Filippone, La Tuscia University) has been working since mid-2000s on its monuments, but scholars from different international institutions were also invited, and a friendly and productive atmosphere (congealed by the weather conditions prevailing in Viterbo in those December days, but surely warmed up by the human exchanges of the protagonists of the meeting) was established on the occasion.*

The single scholars remain responsible for their own contributions, which the editors have not sought to change. In a subject as dynamic and complex as Achaemenid studies there are inevitably differences of opinion on single matters, and these will be reflected in the individual papers.

The Viterbo Conference would not have been possible without the help and encouragement of many people whose assistance at different phases cannot be recalled here; thanks are especially due to the host institution, represented at the opening session by Prof. G. Platania, Dean of the Faculty of Foreign Languages and Cultures.

GIAN PIETRO BASELLO ADRIANO V. ROSSI

Part One

Linguistics and Philology

GIAN PIETRO BASELLO
Università degli Studi di Napoli "L'Orientale"

Doorknobs, Nails or Pegs? The Function(s) of the Elamite and Achaemenid Inscribed Knobs*

like AT PERSEPOLIS (PF 335)

Thousands of administrative tablets were found at Persepolis, but PF 335 is unique in its structure and lexicon, while its shape, rectangular and written in lines running along the short side, is somewhat unusual.[1] It is written in Elamite but one cannot find the usual administrative formulae, such as the widely attested *kur-ma-n* PN-*na* pointing to the person under whose responsibility the administrative operation took place.[2] Instead, the text is made up by four entries (A-D) with a list of quantities and items, the total, an anthroponym[3] and a verbal form, except for the last entry (D) where the latter is lacking:

---

* The present paper contains preliminary results of a series of research projects on Achaemenid epigraphy funded by the Italian Ministry of Education (PRIN 2005105580, PRIN 2007ZKPPSM, PRIN 2009JHSEE7), under the supervision of Prof. A.V. Rossi.

[1] On the structure and lexicon of PF 335, see Basello 2011: 77-78. PF 335 is a little bigger than the majority of tongue-shaped Persepolis tablets; on tablet shapes, see Henkelman 2008: 102-109, §2.2.5. On the number of tablets found in the Persepolis fortification, see Henkelman 2011: 2, updating Jones 2008.

[2] On this interpretation of *kur-ma-n*, see Basello 2011: 69-74. For a (slightly) different view, see Henkelman 2008: 127-128 and 129, fig. 2.25.

[3] Rašnitaita (Tavernier 2007: 282, no. 4.2.1367: **Rašnudāta*-), Naišaia (Tavernier 2007: 62, no. 2.2.45: **Naisāya*-) and Puktaiza (Tavernier 2007: 152, no. 4.2.376: **Buxtēča*- < **Buxt-aiča*-) are considered as names of Iranian origin. Nankupalir is quite clearly Elamite (from *na*- 'to say' according to Zadok 1984: 30, no. 156, and perhaps *pala* 'people, population', according to Zadok 1984: 33-34, nos. 171 and 171a, resulting perhaps in something like 'I am speaking to the people').

PF 335

1 *pasram*, 1 *like*, 1 *elpi*, 1 *ati (h)ipiš*, 1 *šulu*. Total: 5 products,[4] Rašnitaita received.
1 *like*, 1 *elpi*, 1 *ati* (*hipiš*). Total: 3 products, Nankupalir received.
1 *like*, 1 *elpi*. Total: (2) products, Naišaia has given them.
1 *pasram*, 1 *like*, 1 *elpi*. Total: 3 (products), Puktaiza (has given them[?]).

Entry A	Entry B	Entry C	Entry D
⌈1 1 ba-is-ra-um			⌈17 1 ba-is-ra-um
⌈2 1 li-gi	⌈8 1 li-gi	⌈13 1 li-gi	⌈18 1 li-gi
⌈3 1 el-pi	⌈9 1 el-pi	⌈14 1 el-pi	⌈19 1 el-pi
⌈4 1 at-ti hi-pi-iš	⌈10 1 at-ti		
⌈5 1 šu-ul-lu			
⌈6 PAP 5 hu-ut-tuk-ki	⌈11 PAP 3 KI.MIN	⌈15 PAP <2> KI.MIN	⌈20 PAP 3
⌈7 HAL⌜raš-nu⌝-te-⌜da du⌝-iš	HAL na-an-⌈12 ku-ba-li-ir du-iš	HAL na-a-šá-a-ya ⌈16 id-du-nu-ik	HAL pu-uk-te-iz-z[a]

⌈1 1 *pasram*			⌈17 1 *pasram*
⌈2 1 *like*	⌈8 1 *like*	⌈13 1 *like*	⌈18 1 *like*
⌈3 1 *elpi*	⌈9 1 *elpi*	⌈14 1 *elpi*	⌈19 1 *elpi*
⌈4 1 *ati (h)ipiš*	⌈10 1 *ati*		
⌈5 1 *šulu*			
⌈6 PAP 5 *(h)uta-k(i)*	⌈11 PAP 3 *(h)uta-k(i)*	⌈15 PAP (2) *(h)uta-k(i)*	⌈20 PAP 3 (*uta-k*)
⌈7 *Rašnitaita tu-š*	⌈12 *Nankupalir tu-š*	*Naišaia* ⌈16 *itunu-k* (< *i(n) tunu-k*)	*Puktaiza*

Table 1. Transliteration (according to Hallock 1969: 150) and transcription of PF 335. The text is here arranged in vertical columns for comparison between the four administrative entries. Double underlined signs were written over erasures.

[4] I consider hu-ut-tuk-ki as a verbal noun from the verb *(h)uta-* 'to do', assuming that the CVC sign tuk was not used to indicate a specific vowel; cf. the spellings hu-ut-tuk(-ka$_4$) and hu-ud-da-ak/ka$_4$ for *(h)uta-k(-a)* (Hallock 1969: 700, s.v. huttuk and huttuka). The basic meaning was 'made', i.e. 'product', 'artefact', 'manufactured object' or 'handiwork' as a noun. It is possible that *(h)uta-k(i)* acquired a specialized meaning with reference to a particular class of objects (e.g. 'tool' or 'piece of furniture') or material (e.g. 'metal product').

At least in two entries (A-B), where a form of the verb *tu-* 'receive' is used, the anthroponym represents the name of the person who received the items listed above. It is possible that the other two entries (C-D) attest which persons (probably two artisans) had provided some of the items delivered in entries A-B; in this case, only the two *ati* (*hipiš*) and one *šulu* were not accounted for their provenance. Among the listed items, *pasram*, *elpi*, *ati*[5] *(h)ipiš* and *šulu* are hapax legomena. Only *like* is also attested elsewhere.

like AT CHOGHA ZANBIL (TZ 57)

The oldest extant occurrence of *like* is in a short Middle Elamite royal inscription written on a glazed terracotta knob (Fig. 3) from Chogha Zanbil.[6] The knob was found among the ashes on the floor of the cella (room 17) of the so-called Ishnikarap Temple,[7] a name used to refer to a series of rooms and courts in the building facing the north-west side of the ziggurat (Fig. 1).[8] The dedication to Ishnikarap is granted by the inscribed knob itself and some inscribed bricks (TZ 8) found in situ in the doorways, some of them along the path leading to the cella.[9] The identification of room 17 as a cella is due to its position in the plan (Fig. 2), i.e. the last in a chain of connected rooms (including court 15), and to the presence of a plastered brick base (1.20 × 1.20 × 0.60 m) considered as an altar by Roman Ghirshman.[10]

A rosette is glazed on the top convex surface of the knob. The inscription runs on the curved lateral surface of the stem, with the beginning of the lines coinciding with their end. The lines are separated by a rule; a vertical rule separates the end of the lines from the beginning (Fig. 4b). The last line is shorter than the other ones (Fig. 4a). In the text, it is explicitly

---

[5] Maybe corresponding to Middle Elamite *akti*, a term perhaps designating a particular technique of glazing (see below).

[6] G. T-Z. (or G.T.Z.) 55. Photos: Ghirshman 1966: pl. LI.8, and Steve 1967: pl. XXI.5 (= Ghirshman 1966: pl. LI.8, but brighter) and 6 (= Fig. 3). Drawings: Ghirshman 1966: pl. XCV and Steve 1963: 122 = Steve 1967: 100 (= Fig. 4). Transliteration: Steve 1963: 122, no. 57, and Steve 1967: 100-101, TZ 57 (with translation). In the National Museum of Iran (Tehran) according to Steve 1967: 100.

[7] Ghirshman 1966: 92.

[8] Ghirshman 1966: 88-94 and fig. 52 (plan; = Fig. 2).

[9] Basello, in print.

[10] Ghirshman 1966: 92.

stated that Untash-Napirisha, speaking in the first person, made a *like mušita*, related in some way to the Sian-kuk, probably the whole complex of Chogha Zanbil or, more practically, the institution managing it[11]:

TZ 57
|1 ú ^{DIŠ}un-taš-DINGIR.GAL li-ké-e mu-ši-it-ta
|2 hu-h-ta-h ^{d}iš-ni-ka-ra-ab si-ia-
|3 an ku-uk-ra id?-du-ni-h ^{d}in-šu-ši-
|4 na-ak lu-pe-en li-e li-en-ra
|5 x x[12] tu_4-ru-uš-ni-e

u Untaš-Napiriša like muši-ta huta-h.
Išnikarap Sian-kuk-r ituni-h (< i(n) tuni-h).
Inšušinak lupe-n li-e li-n-r .. turu-š-ne.

I Untash-Napirisha made (*huta-h*) a *like muši-ta*.
I gave (= dedicated) it to Ishnikarap of the Siyan-kuk.
Inshushinak, coming? (*lupe-n-r*) and? sending? (*li-n-r*) (it?) for him(self) (*li-e*),[13] .. may make (his) declaration?[14] (*turu-š-ne*).[15]

---

[11] Basello, in print; Henkelman 2008: 356. For a recent discussion of the different interpretations, see Potts 2010: 61.

[12] The two damaged signs could be a-ni *ani* 'not' (prohibitive, which is, however, not attested with the precative; see Stolper 2004: 81, §4.5.2.3) or, more fittingly to the available space, taš-ni *ta-š-ne* '(he) may put/place'. The translation remains difficult.

[13] Difficult passage. The translation reflects the following interpretation: *lupe-n* and *li-n* are coordinated and referred to Inshushinak through the suffix *-r*; *-e* 'his' is considered as referred to Inshushinak. On the meaning of the verb *li-*, see Henkelman 2008: 195-197; I suggest the meaning 'to bring' in a context with *lupe-*. *li-* in *li-e* is considered as a postposition, here suffixed with a personal pronoun, corresponding to Akkadian *eli* in *eli* PN *alāku* 'to be pleasing to PN' (CAD A/I (1964): 321, s.v. alāku 4 c 10′; see, for example, TZ IV:6).

[14] *turu-* is translated as 'to make a declaration' on the very feeble ground of a correspondence with Sb 21854:3 (Akkadian tablet from Susa; one of the so-called funerary tablets, dated ca. 1500 BC) where Inshushinak is said to make a declaration in a kind of judgement of the deceased; Ishnikarap is also mentioned in this connection in the tablet. I cannot explore here the implications of this correspondence (if ever true). On the funerary tablets, see Steve & Gasche 1996 and Tavernier 2013 with further references; see also Basello 2012: 197.

[15] Cf. the translation in Steve 1967: 100: 'Moi Untash-GAL ce « clou » en terre cuite vernissée j'ai façonné ; à la déesse Ishnikarab (Dame) du Lieu-saint j'en ai fait don.

The final -e in the spelling of *like*, not used in the spelling attested four times in PF 335 (li-gi = li-ki), may be a redundant writing pointing to a reading *ke* for the sign GI (ké). *muši-ta* is, according to Steve, a form with a generalizing suffix *-ta* (adding the nuance 'complètement, tout entier en terre cuite vernissée'),[16] elsewhere attested as mu-ši-a and mu-ši-ia on inscriptions and fragments of glazed statues of animals, like the glazed terracotta bull at the north-east entrance of the ziggurat of Chogha Zanbil (Figs. 5-6).[17] Where the context is preserved, *muši-a/-ta* follows a name which seems to point to the text carrier itself, being the object of the verbal form *huta-h* 'I made' which has the king as the subject.[18] Therefore, *like* seems to designate the carrier of the inscription, i.e. the knob, just as *muši* seems to be a reference to the material in which the *like* was crafted.[19]

Que le dieu Inshushinak ... ... dise !'; the conjectural meaning of the last part is: 'Que le dieu Inshushinak veuille déclarer qu'il va accorder ses faveurs !' (Steve 1967: 101).

[16] Steve 1967: 100. Steve compared *muši-ta* to *hušu-ta* in TZ 36:4, referring to Paper 1955: 85, §6.10.2 for the function of *-ta* (Steve 1967: 76). Paper considered the Achaemenid Elamite forms like *mari-ta* (mar-ri-da), *apu-k-ta* (ap-pu-ka-da), *(h)up-ta(i)* (hu-be-te) and *(h)up-ta* (hu-be-da) as exhibiting a 'generalizing /-ta/' suffix. The function of this suffix was inferred from its correspondence with the Old Persian enclitic particle *-ci* which, according to Paper, would serve 'to generalize or make indefinite the noun with which it was used' (Paper 1955: 85, §6.10.2); see, for example, hu-be-te *(h)up-ta(i)* in XPc AE 13-14 ≈ a-v-š-c-i-y *avašci* in XPc OP 14 (line numbering according to the exemplars on the western anta of the southern portico of the so-called Palace of Darius at Persepolis).

[17] mu-ši-a: TZ 53A:3 (on a glazed terracotta bull), TZ 54:3 (mostly restored; according to Steve's drawing, it seems that the final sign is ia rather then a; on a glazed terracotta griffin), TZ 56A:8 (on a glazed brick). mu-ši-ia: TZ 53B-C:3 (on a glazed terracotta bull), TZ 55:3 (on a glazed terracotta fragment; the signs are stamped on the glaze instead of being traced as elsewhere). The occurrences listed in Hinz & Koch 1987: 958, s.v. mu-ši-a and p. 959, s.v. mu-ši-ya, are not consistent with Steve 1967. On the glazed pottery bull, see Ghirshman 1966: 49.

[18] In TZ 53, TZ 54 and TZ 55 a relative clause (*(apa) sunki-p urpi u-p imme (< in-me) huta-hš-a* 'which the kings my predecessors had not made') is inserted between *muši-a* and *huta-h*.

[19] See also Steve 1968: 292-293, fn. 5; Steve 1987: 18; Suzanne Heim in Harper & al. 1992: 202: 'The Elamite word *mushi* is thought to mean glazed terracotta, while *upkumia* occurs in inscriptions on glazed bricks describing the *kukunnum* sanctuary atop the ziggurat there [= Chogha Zanbil]'.

The knob is ca. 7 cm high with ca. 7 cm in maximum diameter.[20] The piece seems to be broken or part of a composed object. Unfortunately, neither Ghirshman nor Marie-Joseph Steve, who published the object as an archaeologist and as an epigraphist respectively, made remarks in this regard. So we do not know if the knob was pierced, as should be, by a hole in which a holding device, attached to a support (wall, furniture, etc.), was inserted.

As for the countless inscribed bricks from Chogha Zanbil, the name of the Middle Elamite king Untash-Napirisha (1340-1300 BC) points to a dating in the second half of the 14th century BC.

NAIL AND TILE KNOBS FROM CHOGHA ZANBIL

Wall knobs are well known in Mesopotamian archaeological records.[21] Formally, three types of knobs are known: a knob as a clay nail, a knob as a clay nail infixed in a (decorated) tile having a hole in the middle, a knob being part and protruding from a (decorated) tile. Since scholars agree that these knobs were fixed on walls, the whole category is named 'wall knobs'. Following the reassessment of this category by Francelin Tourtet, I will use the following labels with reference to the above-mentioned typologies: 'nail knob', 'nail knob with tile' and 'tile knob'.[22] While in the nail knobs with tile the nail itself was infixed in the wall (or another support) and held the pierced tile, the tile knob had to be hung to a peg in order to be attached to the support; the peg slid through an opening on the back of the tile and was inserted into the hollow knob. In some cases the tile knob was made of two joining elements, the pierced tile and the hollow knob, assembled together on a peg infixed in the support. A small hole on the stem of the knob was used to insert a small pin into the inner peg, in order to prevent rotation and slipping off (e.g. at Malian, see below; Fig. 7b).[23] Alterna-

[20] Height 7.2 cm, diameter 7.2-3.8 cm (maximum-base) according to Steve 1967: 100. Height 6.8 cm, diameter 7.5 cm according to Ghirshman 1966: pls. XCV and LI.8.

[21] Tourtet 2013. See also Moorey 1994: 313-314.

[22] Tourtet 2013.

[23] Reconstructive drawing in Carter 1996: fig. 31 (= Fig. 7b).

tively, plaster was used to fix a hollow terracotta peg in the wall and afterwards to fix the tile knob on the peg (e.g. at Chogha Zanbil; Fig. 7a).[24]

Many glazed tile knobs ('plaques émaillées à pommeau' in Ghirshman's works; Fig. 9) and nail knobs ('clous émaillées'; Fig. 10) were found at Chogha Zanbil (Fig. 8). Their size is usually bigger than the knob from the Ishnikarap Temple; the side of the square tile is variable in a scale of values (ca. 45, 38, 26 or 13 cm; probably 7x, 6x, 4x and 2x).

Along the north-east side of the ziggurat there was a sequence of storerooms accessible from the ceiling through a descending stairway. In room 26, 223 glazed tile knobs of various type were found.[25] Two tile knobs were found in room 27.[26] In the following room (room 28), over 700 nail knobs were orderly deposited on seven layers with several rows of ten nail knobs each.[27] In some series of exemplars, the front surface of the tile is decorated with inset glass discs and/or wih a palmette relief in each corner. Ghirshman stated that the knobs in the storerooms were 'éléments de décoration architecturale, ..., prêts à être utilisés pour l'embellissement de nouveaux bâtiments'.[28]

The wall knobs are both anepigraphical and inscribed. In the latter case, they bear the name of Untash-Napirisha in the following short Elamite inscription:

TZ 60
ú (^{DIŠ})un-taš-DINGIR.GAL
u Untaš-Napiriša.
I Untash-Napirisha.

The writing is simplified and reduced to the minimun number of wedges for the difficulty of writing on a glaze. For the same reason, the heads of the wedges are not always clearly traced. Variants are recorded in the form of the signs.[29]

The inscription was placed on the head of the nail or on the front surface of the tile, but also on one of its narrow lateral surfaces, so perhaps it

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[24] Reconstructive drawing in Ghirshman 1966: 75, fig. 44 (= Fig. 7a).

[25] Ghirshman 1966: 18 and pl. XVIII.1-3.

[26] Ghirshman 1966: 18.

[27] Ghirshman 1966: 18 and pl. XVII.

[28] Ghirshman 1966: 18.

[29] Steve 1967: 103.

did not matter if the text was visible or not.[30] The latter position suggests the possibility that the inscription was a kind of trademark, marking the tile knobs like products of what we would call today a nationalized factory. Mesopotamian monarchies owned many manufacturing facilities and, in my view, the name of the king represented and embodied our modern idea of both state and business corporation.

The written name of the king represented probably a way to mark property, i.e. to let one knows that 'this is mine', with reference both to present possession and future memory.[31] The inscription could also be an abridged form for *u Untaš-Napiriša i(n) huta-h* 'I Untash-Napirisha made this'. Compare the Akkadian inscription in third person on two bronze locks ('mentonnet en bronze') found in the north-western entrance to the ziggurat (Fig. 13)[32]:

TZ VIIIa
ša LUGAL u[n]-t[aš-DINGIR].GAL i-pu-[šu]
What the king Untash-Napirisha has made.

A glazed tile knob was given as a gift by Ghirshman to the Istituto Italiano per il Medio ed Estremo Oriente (IsMEO) in 1958[33] and afterwards published by Enrica Fiandra in 1982.[34] Probably it is the best published tile knob among the many exemplars found in the ancient Near East. It is now exhibited in the Museo Nazionale d'Arte Orientale in Rome. The diameter of the knob is ca. 18 cm and the base measures 37 × 37 cm; the knob protrudes ca. 18 cm while the total height of the tile knob is 22 cm.[35]

The article by Fiandra is detailed and well documented. Her main thesis is that the wall knobs were used as a device to lock doors, winding a rope

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[30] Head of the nail: e.g. Ghirshman 1966: pl. XIX.4 and 8. Tile: e.g. Ghirshman 1966: pl. XIX.7. Lateral surface: e.g. Ghirshman 1966: pl. XCVII (= Fig. 9), G.T.Z. 1156-1157.

[31] See also Basello 2012: 166-167 with reference to IRS 38 where the name of the ancestor king who had built a temple was rewritten in the inscription of the reigning king celebrating the restoration of the same building.

[32] G.T.Z. 274; height 6 cm. Ghirshman 1966: 51. Drawing (= Fig. 13a) and transliteration by Nougayrol in Ghirshman 1966: pl. XCVIII. Photos in Ghirshman 1966: pl. XXXVI.2-4 (= Fig. 13c-d).

[33] Fiandra 1982: 17, endnote 1.

[34] Fiandra 1982.

[35] Fiandra 1982: 17, endnote 1.

around the knob and then sealing the rope by means of a lump of clay. Fiandra mentioned the lumps of clay bearing the impression of a knob found in Mesopotamian cities like Lagash, Kish, Fara, and even Festos outside Mesopotamia.[36] Further proof for Fiandra's thesis is the connection of some wall knob findings with gates of the inner circle of wall at Chogha Zanbil: 27 nail knobs blocked the north gate (Fig. 11)[37]; fragments of nail and tile knobs were found near the north-east gate[38]; four tile knobs were found in the debris in the middle of the royal gate.[39] The latter ones were considered as especially remarkable by Fiandra, who thought that they were originally placed on the two sides of each shutter of the gate, just above the locking device whose remnants were also found in the debris.[40]

Fiandra also mentioned a bronze peg (Fig. 16) found in the doorway between rooms 20-21 of the ziggurat in likely connection with a locking device inside room 21 (Fig. 14).[41] Room 19 provided access from the parvis to a sequence of rooms called Temple B of Inshushinak by Ghirshman: rooms 20, 21 (the antecella) and 22 (the cella), one leading into the other, the latter being a dead end with a table in baked bricks.[42] Coming from outside, one had to pass through the thick doorway between rooms 20-21, with the above-mentioned peg infixed into the wall on the left, to find the door revolving on the right and opening inside. The locking device, two carved stone slabs infixed into the wall with the protruding part pierced by a 9 cm diameter hole each, was placed inside room 21 to the left of the door (from one coming from outside) (Fig. 15).[43] Surely a bolt slided through the holes of the slabs, blocking the shutter for a maximum of 40 cm.[44] As Fiandra re-

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[36] Fiandra 1982: 1 and 2, fig. 2.

[37] Ghirshman 1966: 37 and 66, pl. XLIX.1 and 3.

[38] Ghirshman 1966: 65.

[39] Ghirshman 1966: 73 and 74, fig. 43.

[40] Cf. Ghirshman 1966: 75, fig. 45 with Fiandra 1982: 11, fig. 19.

[41] G.T.Z. 433. Photo in Ghirshman 1966: pl. XXV.5 (= Fig. 16a); drawing in Ghirshman 1966: 32, fig. 22 (= Fig. 16b). Fiandra 1982: 3-6; a brief mention was made also in Ferioli & Fiandra 1979: 311.

[42] Ghirshman 1966: 34.

[43] Ghirshman 1966: 34 (giving 8 cm for the holes) and 33, fig. 23 (giving 9 cm for the holes) (= Fig. 15).

[44] 40 cm is the distance between the first slab (closest to the door) and the doorway, and between the second slab (farthest from the door) and the corner of the

marked, the peg was part of the locking device: the shutter was closed and the bolt in room 21 was pushed or pulled from the doorway by means of a system of ropes passing through some small opening in the shutter itself; then the rope was stretched and secured around the bronze peg; a clay lump was placed above the rope around the peg or around the rope alone.[45] It is also possible, even if unlikely, that the bolt was used only to secure the entrance from inside, when someone was standing in rooms 21-22.

In my view, the bronze peg cannot be used to support the proposed locking function for the wall knobs. The materials are different: the peg is made of bronze and it could not be pulled out easily from the masonry because of a tooth protruding from the stem; the wall knobs were made of clay and probably were not suited to endure the stress of a locking device. Sizes are also rather different: the diameter of the head of the peg measures ca. 6 cm (stem diameter 2.5 cm; length 25.8 cm) and it was easy to seal it with a small lump of clay; this is not true for the nail and tile knobs whose head diameter varies roughly between 16-30 cm and 12-20 cm respectively; only few smaller replicas of tile knobs measure 6 cm.[46] A similar gap can be noticed measuring the knob sizes drawn from the lumps of clay from Mesopotamia: the head diameters are comprised between 3-4 cm, only the exemplars from Lagash, Fara and Kish being larger (7-9 cm).[47] Therefore, it seems that the comparative data used by Fiandra pertains to different typologies and that the wall knobs from Chogha Zanbil could not be part of a locking device.

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room (Ghirshman 1966: 33, fig. 23). Probably the bolt ended its run against a tile on the wall to prevent the wear of the surface as for the terracotta pipe protruding from the wall in room 19 (Ghirshman 1966: pl. XXV.2 = Fiandra 1982: 5, fig. 6). The holes in the slabs are at a height of 114 cm from the trampling floor (Ghirshman 1966: 33, fig. 23); unfortunately the height of the bronze peg in the wall is not recorded.

[45] Fiandra 1982: 3-6. Cf. Ghirshman 1966: 32-34: 'Soit qu'à ce clou était suspendue la clef pour ouvrir la porte de l'ante-cella [= room 21] (...), soit qu'on y attachait une cordelette à l'aide de laquelle on roulait pour la remonter, une natte ou une étoffe qui cachait l'entrée'.

[46] Measures taken on (and scaled accordingly to) the drawings in Ghirshman 1966: pls. XCVII-XCVIII. Smaller replicas: Ghirshman 1966: pl. XCVII (= Fig. 9), G.T.Z. 269.

[47] Measures taken on (and scaled accordingly to) the drawings in Fiandra 1982: 3, fig. 2.

Moreover, fragments of tile knobs were found on every slope and parvis of the ziggurat, and not only in connection with doors or gates.[48] Ten tile knobs were found on the north-east slope of the ziggurat, not far from a heap of nail knobs (Fig. 12), both groups with and without the written name of Untash-Napirisha.[49] Fragments of nail knobs, similar to others from Susa, were found on the south-east parvis.[50] These findings point to a pervasive use of wall knobs on the external walls of the ziggurat. Moreover, the above-mentioned 27 nail knobs blocking the north gate probably slid there from the ziggurat, dragged by flowing rainwater.[51] It is also easy to consider the many exemplars stored in the north-east storerooms of the ziggurat as decorative elements waiting installation. Coming back to Fiandra's hypothesis, I think that there were too many wall knobs with respect to the doors to be sealed[52]; one or two wall knobs could serve a door, but not as many as 27 for the north gate. Finally, the workmanship of these knobs is not very fine and accurate, as if they were to be seen from a certain distance, and the glaze is suited for an external installation.

In my opinion, Ghirshman's suggestion that the nail and tile knobs were element of architectural decoration remains the best explanation. Judging from the number of discovered exemplars, it seems likely that nearly all the external walls of the ziggurat were covered by a tight pattern of nail and tile knobs. It is a pity that the reconstructive drawing and the tridimensional wooden model of the ziggurat published by Ghirshman do not show such a distinctive and lavish feature.[53]

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[48] Ghirshman 1966: 37. The same was also true for Roland de Mecquenem in the campaigns before Ghirsham: 'Nous avons trouvé plusieurs de ces clous [= nail knobs] sur le sol du temple [= the central part of the building facing the ziggurat on the north-west side, including also the Ishnikarap Temple], mais beaucoup de fragments sur la Ziggourat elle-même ; il est certain qu'ils décoraient le sanctuaire du sommet de la tour' (Mecquenem in Mecquenem & Michalon 1953: 47; drawing on p. 46, fig. 11); tile knobs were found east of the ziggurat and on its north-east slope (Mecquenem in Mecquenem & Michalon 1953: 47; drawing in fig. 12).

[49] Ghirshman 1966: 37. Photos in Ghirshman 1966: pl. XIX.2 and 1 (= Fig. 12) respectively.

[50] Ghirshman 1966: 87.

[51] Ghirshman 1966: 37. Photos in Ghirshman 1966: pl. XLIX.1 (= Fig. 11) and 3. Compare the drainage plans in Mofidi Nasrabadi 2007: plans 2-3.

[52] Already Buccellati 1994: 290.

[53] Reconstructive drawing: Ghirshman 1966: page in front of the title-page. Model:

* * *

Glazed tile knobs similar to the ones from Chogha Zanbil were found also at Susa.[54] A further typology, not known from Chogha Zanbil, is attested in two fragmentary exemplars of glazed tiles with a hole in the middle, once used to fix the tile through a peg or nail (Fig. 17).[55] They bear an Akkadian inscription of Shutruk-Nahunte, probably the second king with this name[56] (717-699 BC):

> ša EŠŠANA ^{DIŠ}šu-ut-ru-uk-^{d}naḫ-ḫu-un-te i-pu-šu[57]
> What the king Shutruk-Nahunte has made.

The same word sequence was also found on some bricks of the same king,[58] sometimes expanded as follows:

> ša EŠŠANA ^{DIŠ}šu-ut-ru-uk-^{d}naḫ-ḫu-un-te i-pu-šu-ma a-na TI.LA-šu a-na ^{d}iš-ni-ka$_4$-ra-ab [... *iddinu*$^{?}$][59]
> What the king Shutruk-Nahunte has made and [has given$^{?}$] to Ishnikarap for his life.[60]

Malbran-Labat translated the verb *epēšu* 'to do, make' as 'to build', intending the text as referring to the building in which it was placed and not to the text carrier itself (the tile). In fact, some Achaemenid inscriptions with a similar wording begin with a noun that seems to be the name of the text carrier (see below).

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photos in Ghirshman 1966: pl. XXXVII; Amiet 1966: 348-349, figs. 255-256.

[54] Amiet 1967: 29.

[55] Sb 732-734, originally ca. 38 × 38 cm. Jéquier 1900: 126 and pl. VI (bottom right = Fig. 17): 'grands carreaux émaillés vert et jaune sur fond blanc, portant le nom de Choutrouk-Nakhounta'. Photo in Amiet 1966: 398, fig. 300, reporting the previous dating to Shutruk-Nahunte I (ca. 1190-1155 BC); the dating is revised in Amiet 1967: 29, fn. 4. The inscription is fragmentary.
Sb 6874. Drawing in Lambert 1967: fig. 15. The inscription is complete.

[56] Lambert 1967.

[57] The transliteration has been checked on the drawing in Lambert 1967: fig. 15. See also Scheil 1900: 119. Note the usage of the logogram EŠŠANA for 'king'.

[58] Scheil 1900: 118; IRS 55.

[59] IRS 56. See also Scheil 1900: 118.

[60] Cf. the translation in Malbran-Labat 1995: 134: 'Ce qu'a bâti le roi Shutruk-Nahhunte et dont [il a fait don$^{?}$] à Ishnikarab pour sa vie'.

Probably the tile in the nail knobs with tile had a functional origin, in order to protect from wear the surface where a peg or nail was driven in,[61] whichever function had that peg or nail.

huphupum AT SUSA (EKI 44)

Fiandra also showed two glazed knobs from Susa bearing an inscription of the Middle Elamite king Shilhak-Inshushinak (1150-1120 BC).[62] At least two more exemplars are known. They are glazed like many wall knobs from Chogha Zanbil but the shape is different and the size is smaller. Two different sizes are attested: 13 and 19 cm in head diameter; 7.8 and 11.4 cm in height.[63] The stem is pierced by a hole (diameter ca. 0.8-1.0 cm[64]) probably used to prevent the knob from slipping off (or rotating on) its support. The inscribed knobs were found together with many anepigraphical exemplars in the trenches digged in the southern part of the Acropolis mound at Susa.

Trench	Campaign	Knobs	Reference
7, 7α	1897/1898	many anepigraphical and many inscribed[65]	Lampre 1900: 105
7β, 7γ	1898/1899	two inscribed	Jéquier 1900: 116
15, 15α, 15β	1898/1899	many fragments, many anepigraphical, others inscribed[66]	Jéquier 1900: 123

Table 2. Find spots of knobs from Morgan's trenches on the Acropolis of Susa.

The find spot of the two inscribed exemplars from trenches 7β and 7γ is recorded by G. Jéquier as one of three small chamber tombs in the same masonry:

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[61] Fiandra 1982: 14-15.

[62] Fiandra 1982: pl. II.5.

[63] Jéquier 1900: 123; König 1965: 17, no. 44 (König called these knobs 'Pilze' i.e. 'mushrooms'). Cf. Lampre 1900: 105: 'les dimensions sont fort variables'.

[64] König 1965: 17, no. 44.

[65] Lampre 1900: 105: 'Beaucoup de ces pommeaux portent gravé un texte cunéiforme recouvert d'émail'.

[66] Jéquier 1900: 123: 'D'assez nombreux fragments de pommeaux émaillés proviennent de ces tranchées. ... Beaucoup sont tous unis, d'autres portent une inscription'.

> Le mort était couché sur un lit de bitume, et le reste de la tombe était rempli de terre, de fragments de briques, de vases et de jattes en terre grossière et d'ossements d'animaux ; j'ai même trouvé dans l'un de ces tombeaux deux pommeaux en grès émaillé, au nom de Chilhak [= Shilhak-Inshushinak].[67]

A specific function in funerary contexts for these knobs may be very intriguing but it is possible that they were there only as part of the filler.[68]

Jéquier described the knobs as follows:

> Ces petits monuments, dont nous ne pouvons pas savoir exactement la destination, aucun d'eux n'ayant été trouvé en place, sont en pâte de grès comme les briques émaillées achéménides et recouverts d'une couche d'émail vert et plus rarement jaune. L'intérieur est creux, sans doute pour être emmanchés sur une tige quelconque et maintenus par une cheville. ... les signes creusés très profondément étaient remplis par l'émail qui, plus épais à ces endroits, devait les faire ressortir par une teinte plus foncée que le fond.[69]

The known inscribed exemplars (Fig. 19) are listed in the following table (Table 3).

Louvre	Transliteration Translation	Drawing	Heliogravure
Sb 700	MDP 3 53 EKI 44a	CIE 44a; König 1965: pl. 7 (better) after the heliogravure	Lampre 1900: pl. IV (side view) (= Fig. 18)
?	MDP 3 52 EKI 44b	CIE 44b after the heliogravure	Scheil 1901: pl. XIV (head only) (= Fig. 19d)
Sb 691	MDP 3 50 EKI 44c	Scheil 1901: 72 = CIE 44c	
Sb 723	MDP 3 51 EKI 44d	Scheil 1901: 74 = CIE 44d	

Table 3. List of the known exemplars of inscription EKI 44.

The inscription (EKI 44a-d; Fig. 19) is quite articulated and has more or less modules according to the available surface of the knob. EKI 44a is the longest one: it is opened by an invocation to Inshushinak with several epi-

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[67] Jéquier 1900: 116.

[68] Suzanne Heim (in Harper & al. 1992: 203) suggested a specific funerary use for the glazed objects.

[69] Jéquier 1900: 123.

thets (A); the pronoun 'I' and the name of the king with his royal titulary follow (B); then the *tak-me ... inti-k-a* ('for the sake of the life of ...') formula is written (C); the *huta-* formula, where the work of the king is referred to, follows (D); at last, a curse formula closes the text (E).

EKI 44c lacks entirely the curse formula (E) and shows an abridged version of the other modules (A-C), except the *huta*-formula (D) which is the same of EKI 44a. For example, in EKI 44c the module A was reduced to one epithet instead of five; the module B was reduced to the filiation and the last two titles of EKI 44a, omitting three other titles; the *tak-me* formula is reduced to two beneficiaries instead of three. In EKI 44d the modules A and E are omitted, module B is even more reduced than EKI 44c, while a word (*nika-me*) is added in module C and the module D is expanded with respect to EKI 44a.

This is interesting because similar possibilities in the composition of modules are known also from the Achaemenid royal inscriptions: module A is the so-called "creation" formula,[70] where the name of the god (Ahuramazda) is invoked; module B is the royal titulary, often preceded by the pronoun 'I'; module D is the thematic section, specifically related to the deeds of the king and especially enlarged in the longest Achaemenid inscriptions; module E is the final protection formula.[71]

Leaving aside the addition in EKI 44d, the module D, when preserved, is the same in all the exemplars:

EKI 44a:18-24 = EKI 44c:16-22 = EKI 44d:13-23
a-ak hu-up-hu-(up-)pu-um hu-ut ha-li-ik-pe ak-ti-in-ni hu-ut-tah
(a-ak ^{d}za-na te-en-tar-ri) nu-uk-ku su-um-mu-h
ak huphupum hut hali-k-p akti-ni huta-h
(ak Zana Tentir) nuku sumu-h.
and I made the *huphupum*s (*-p*) in glaze with great toil[72];
(and for[?] the Lady (= goddess) Tentir (and)) for us I strove.[73]

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[70] For a criticism towards this designation, see Basello 2012: 179 reporting the interpretation developed in the framework of the DARIOSH Project.

[71] On Achaemenid protection formulas, see Filippone 2012.

[72] In TZ IV:5, <u>ša e-pu-šu ù ša a-na-ḫu</u> (with the verb *anāḫu* 'to toil') corresponds to the Elamite syntagm *huta-k hali-k*, well known in Middle Elamite inscriptions. In EKI 44, I intend *hut hali-k* as a qualification of *huphupum* followed by a plural suffix *-p*: 'the *huphupum*s (which I) made (and for which I) toiled'.

[73] Cf. the translations in Hinz & Koch 1987: 1105, s.v su-um-mu-h ('ich verpflichtete mich (?)') and Malbran-Labat 1995: 110 ('Je l'ai conçu pour nous[?]'). See also

It is not easy to understand this passage: *huphupum* seems to be the name of the object, while *akti* (elsewhere *akti-a*) is interpreted as *muši-ta* in TZ 57, i.e. with reference to the glaze of the object. With respect to *muši*, *akti* is considered 'a new technique (...) for making bricks from a highly siliceous architectural faience (often called *grès émaillé* by the excavators and more recently, *pâte siliceuse*)'.[74] As usual, we are taking for granted that the object whose making is referred to is the text carrier itself. Therefore Friedrich König, Walther Hinz and Heidemarie Koch translated *huphupum* as 'Knauf'.[75] It is also possible that the text carrier was part of a bigger structure and *huphupum* was its designation.

The ending *-um* evokes an Akkadian loanword in Elamite and it is noteworthy that the Akkadian word *ḫuppu* could point to a metal ring used in connection with doors.[76] CAD also lists the word *ḫupḫuppu* meaning 'a container or tube'.[77] Also the Akkadian word *ḫapḫappu*, a 'part of the door' or 'a container', has been mentioned in this connection.[78]

These knobs were different in size, shape and, probably, also in name and function with respect to the *like* from Chogha Zanbil (G.T.Z. 55).[79] Note especially the sharp step between the stem and the head, preventing something wound around the stem from slipping off. Anyway, the glaze and the

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Malbran-Labat 1995: 111: 'le verbe exprime la conception et la réalisation d'une œuvre. Cette racine est bien illustrée jusqu'en élamite achéménide (*zammik*, *zaumin*, *zammip*, etc.)'.

[74] Suzanne Heim in Harper & al. 1992: 202.

[75] König 1965: 96, fn. 9; Hinz & Koch 1987: 721, s.v. hu-up-hu-pu, hu-up-hu-pu-um, hu-up-hu-up-pu-um.

[76] CAD Ḥ (1956): 239, s.v. ḫuppu D 2 a: 'metal ring ... for various purposes'; see especially the example translated as 'one copper ring suitable for a door ...'; Salonen 1961: 77-78, s.v. ḫuppu. *ḫuppu* is probably connected with *uppu*, especially in the meaning 'casing for a bolt, peg, or pin' (CAD U-W (2010): 184, s.v. uppu A 1 b; see especially Kilmer 1977, Leichty 1987: 192-193 and Potts 1990); see also Salonen 1961: 90, s.v. uppu, which is cited in Ghirshman 1966: 32, fn. 1, with reference to the bronze peg G.T.Z. 433.

[77] CAD Ḥ (1956): 238, s.v. ḫupḫuppu.

[78] CAD Ḥ (1956): 84, s.v. ḫapḫappu. Scheil 1901: 73; Stolper 1984: 61. Cf. König 1965: 96, fn. 9; Steve rejected this connection (Steve 1968: 294, fn. 1).

[79] According to König, these knobs had nothing to do with the inscribed nails, i.e. probably the ones from Susa and Mesopotamia (König 1965: 17, no. 44).

reported large number of exemplars point mainly to a decorative function. To this regard, G. Lampre wrote:

> d'après la disposition des trous de fixation, pouvait ou bien être employé comme pendentif, ou bien terminer la tête de mâts ou l'extrémité de meubles.[80]

SPOOLS FROM SUSA AND HAFT TAPPEH

A series of stone knobs (Fig. 20), similar in shape to the *huphupum*s inscribed with the name of Shilhak-Inshushinak, were found at Susa inside a pile of baked bricks, considered as a possible foundation deposit, during the 1899-1902 campaigns.[81] Jéquier provided a careful desciption of these knobs, found together a dozen of stone mace heads ('masses'):

> A côté de ces armes et de quelques autres petits objets que je ne puis définir, se trouvait une série de pommeaux de la même matière, analogues de forme à ceux de Chilhak [= Shilhak-Inshushinak] qui, eux, sont en grès émaillé[82]: ceux dont je veux parler ici sont beaucoup plus petits et nous représentent une sorte de cylindre, rétréci dans le haut par un large cavet qui va s'unir par une arrête aiguë à la face supérieure, légèrement bombée ; un trou à section carrée ou ronde les traverse du haut en bas, mais cette indication n'est pas suffisante pour qu'on puisse se rendre compte de leur emploi.[83]

The size varies roughly between 3-6 cm in height, 5-6 cm in maximum diameter and 3-4 cm in minimum diameter.[84] One exemplar has the head with the name of the Kassite king Kurigalzu written in small characters.[85]

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[80] Lampre 1900: 105.

[81] Jéquier 1905: 34.

[82] König compared these objects to the knobs of Shilhak-Inshushinak, too (König 1965: 17, no. 44; the reference to 'DP VII ... Fig. 21–33' has to be corrected in '... Fig. 31–33').

[83] Jéquier 1905: 35. Drawing: Jéquier 1905: 33, figs. 31-33 (= Fig. 20); see also Huot 1996: 147, fig. 1a-b.

[84] Measured on Jéquier 1905: 33, figs. 31-33 and scaled as indicated in the caption.

[85] Sb 715, mentioned also in Huot 1996: 145 with drawing on p. 147, fig. 1b.

Since both the Kassite kings bearing this name were involved in Elamite politics, it is not easy to date the inscription with certainty.[86]

If the inscribed knob is one of the two with the name of a Kassite king published later by Vincent Scheil (Fig. 21),[87] the inscription is a little more articulated and, providing the filiation, can be attributed to Kurigalzu II (1327-1303 BC) instead of Kurigalzu I (first half of the 14th century BC). The dating is therefore about two hundred years before Shilhak-Inshushinak and his *huphupum*s. Scheil remarked:

> Sur la partie supérieure légèrement bombée, un texte votif avait consacré ces objets aux dieux. Était-ce réellement des boutons de sceptre or *conventionalized form of a phallus*, come dit Hilprecht (...) ? Nous l'ignorons.[88]

The Akkadian inscription (Fig. 21c) reads:

> [d]en-líl LUGAL.A.NI.IR ku-ri-gal-zu DUMU bur-na-bu-ri-ia-aš
> NAM.TI.LA.[NI-šu] IN.NA.[AN.BA]
> To Enlil, his king, Kurigalzu, son of Burna-buriash, presented (BA = *qiāšu*) (this) for his life.[89]

This very inscriptional text had been found on an irregular block of lapis lazuli in Nippur,[90] in the same place where some stone knobs were also found (Fig. 22).[91] These stone knobs bear inscriptions of other Kassite kings and are very similar in shape and size to the ones found at Susa. Therefore it has been suggested that the exemplars from Susa were part of a booty.[92]

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[86] See, for example, Steve & al. 2002-2003: 456-457, with further bibliography.

[87] Height 5 cm, diameter 6 cm. Scheil 1913: 32-33 with drawings (= Fig. 21).

[88] Scheil 1913: 32, with a reference to Hilprecht 1893: 49, no. 34, and p. 51, nos. 56-57 and 69-70.

[89] Inv. 4625. See the translation in Scheil 1913: 32: 'A Ellil son roi, Kurigalzu, fils de Burnaburiyas, pour le salut de sa vie a donné (ceci)'. The inscription of the other exemplar published by Scheil is nearly entirely damaged and has been restored according to the first exemplar, except for the name of the king.

[90] Size 5.1 × 9.25 × 5 cm. Hilprecht 1893: no. 36.

[91] Height ca. 5 cm, diameter ca. 7 cm, except no. 34 (height 3.5 cm, diameter ca. 6 cm). Hilprecht 1893: nos. 34 (photo on pl. X.23 = Fig. 22b), 56-57 (photo on pl. X.24 and 22 = Fig. 22c and 22a), 69-70.

[92] Steve & al. 1980: 100, fn 61; already Scheil 1913: 32.

Fiandra and J.-L. Huot agreed that knobs like these ones had a locking function.[93] Since they seem suited for being wounded by a rope, we can name them properly 'spools' or 'bobbins'.

The dedication to a god, which associates these spools with the *huphupum*s from Susa and the *like* from Chogha Zanbil (G.T.Z. 55), is the main focus of the inscription; ownership (hinted by the name of the king) seems to be secondary, even if property had to be protected by gods.

Other exemplars of spools (Fig. 24) were found at Haft Tappeh, the centre near Susa that flourished in the second half of the 15th century BC. According to the Iranian archaeologist Ezat Negahban,

> Several types of decorative spools made of frit[94] and baked clay were found in the courtyard in front of the artist's workshop of Terrace Complex I. These were probably used on chariot harness.[95]

The artist's workshop is a large hall divided into smaller rooms on the eastern side of the High Terrace (Terrace Complex I), where bowls containing dried paint, bronze tools, small fragments of mosaic and other objects were found.[96]

One spool (Fig. 23) is made of stone and bears a short Akkadian inscription with the name of Adad-erish on a flat band near the base.[97] It measures 4.5 cm in height and 6.6 cm in diameter, with a hole of 1.6 cm in diameter, being very similar to the size of the stone spools from Susa and Nippur. The short inscription of the spool reads:

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[93] Fiandra 1982: 13; Huot 1996; also Leichty 1987: 192.

[94] These frit spools were referred to as 'glazed wall knobs' from Haft Tappeh by Suzanne Heim in Harper & al. 1992: 202 (in the French edition, same page, 'pommeaux glaçurés' is written instead), originating the thesis that they were 'the earliest architectural faience produced in Elam', cited also in Sauvage 1998: 31. An exemplar of frit spool is in Ferioli & Fiandra 1979: fig. 4b, according to a personal communication by Negahban to Suzanne Heim (in Harper & al. 1992: 203, endnote 8).

[95] Negahban 1991: 117, nos. 495a-d, 496-499 ('Decorative Spools'), and photos on pl. 58, nos. 495-497 and 499 (= Fig. 24). See also Huot 1996: 145 and drawing on p. 147, fig. 1d.

[96] Negahban 1991: 18, 'Hall no. 6 ("Workshop")'.

[97] H.T. 151. Negahban 1991: 117, no. 492 ('Inscribed White Stone Spool'), and photo on pl. 57, no. 492 (= Fig. 23). See also Huot 1996: 145.

šà ^{d}IM.APIN UGULA KUŠ$_{7}^{meš}$
Of Adad-erish, head of the grooms[?] (*kizû*).[98]

Adad-erish, with this same qualification, is attested also in the Akkadian tablets from Haft Tappeh and in the impressions of his seal.[99] He was probably a high official.

Negahban described this spool under the heading 'decorative object' (chapter X), explaining his functional interpretation as follows: 'This spool may have been used on a chariot harness, to pass the leather straps'.[100] The emphasis on the chariot harness was probably a consequence of the mentions of various kinds of chariot in the Akkadian texts found there (the stela of king Tepti-Ahar and the administrative tablet HT 8:5[101]). There are few doubts that spools like this one were used as fastening points for ropes, wound around the spool itself and then sealed by a lump of clay since such broken lumps, bearing inside the impression of a knob and with cylinder seals imprinted on the external surface, were actually found at Haft Tappeh (Fig. 25).[102] According to Huot, Adad-erish was the name of the official under whose responsibility the doorway blocked with that spool was opened or sealed.[103]

Spool-shaped pegs were also found in the Achaemenid palace of Susa and are, consequently, dated to the Achaemenid period:

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[98] Cf. the translation in Negahban 1991: 106, no. 492 ('Inscribed Spool'): 'Belongs to Adad Arash Ish (Ish is a title meaning head of shepherds or head of herdsmen)'; the transliteration provided there has some misprints. *kizû* means 'herdsman(?)', 'groom, personal attendant', also with reference to horses; see CAD K (1971): 477-478, s.v. kizû.

[99] The occurrences of the name Adad-erish are listed in Glassner 1991: 114, fn. 46. Sealings: Glassner 1991: 111.

[100] Negahban 1991: 117, no. 492.

[101] Herrero 1976: 114, no. 8, lines 4-5 (commentary to HT 8:5). On the stela, see Reiner 1973.

[102] Ferioli & Fiandra 1979: 310-311 and photos on pls. XIX-XX, figs. 4-5 (= Fig. 25) and 6.

[103] Huot 1996: 150: '... inscrit au nom de la personne habilitée à exercer son contrôle sur le passage qu'il sert à fermer'.

> Nous avons recueilli plusieurs clous en calcaire gris, autrefois liés dans un pilier de pierre par un joint en plomb ; la tête soigneusement polie ressortait pour servir de patère.[104]

Many other objects, glazed or not, variously interpreted as knobs and pegs, were found at Susa, having many sizes and, probably, functions.[105]

Architectural Models with Wall Projections

The small-scale models resembling what seems to be some kind of house or building have ever attracted interest because of their possible use for investigating an intact life-size reality of the past that is no more existing. Béatrice Muller stressed the interplay of ambiguity involved in the modern description of these models, i.e. describing the model as an object or as the building which it represents.[106] As for the outcomes of sculpting or painting, a three-dimensional architectural model was a representation of reality where single details could be emphasized, reduced or removed according to its function(s) and the particular needs for which the model was commissioned. As remarked by Muller, several functional typologies of objects are grouped under the current category 'architectural model' and not every extant model had one and the same function.

In the comprehensive catalogue prepared by Muller (Mul.),[107] one can find evidence that could help understand function and placement of nail and tile knobs. This evidence has to be used cautiously, as the object in question has been removed from its original context and its functions are unclear. Moreover, it is allegedly older than the above-discussed Elamite textual and archaeological documentation, and comes from a distant area.

The model Mul. 168 (Figs. 26-27), now exhibited at the Rosicrucian Egyptian Museum in San Jose (California),[108] pertains to the architectural

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[104] Mecquenem 1947: 45 and fig. 20. A similar object is mentioned in Mecquenem & al. 1943: 40-41, fig. 34.4.

[105] I only mention here Sb 3376 (diameter 6 cm, extant height 12 cm) with traces of a (illegible[?]) inscription on the stem: Mecquenem & al. 1943: 40, fig. 33.4 (drawing); photo in Amiet 1966: 399, fig. 301.

[106] Muller 2002: 7.

[107] Muller 2002.

[108] RC 2084; 47.5 × 29.5 cm, height 44.8 cm. Photo and drawings in Muller 2002: fig. 168 (≈ Fig. 27); see also the sketches in Muller 2002: pls. XIV.2 (axonometric projec-

typology 'Maison à chambre haute', i.e. it represents a two-floor house, with the upper floor wide only half of the lower one, leaving a flat roof over half of the lower floor. The provenance is recorded as Syrian Middle Euphrates; the thermoluminescence dated it back to 2000 BC ca.[109]

Under the ribbon that marks the top of each level on the outside, a series of paired nail-shaped projections is lined up at regular intervals.[110] The flat heads of the projections in the second level are incised with radiant lines. A further series of paired projections is placed at half height of the second level, alternating with the rectangular openings resembling windows. The upper series of projections, formed by three pairs per side, alternates with two more single nails at a slightly lower height.[111] At least on the side facing the flat roof of the first level, a further isolated projection is placed to the left of the middle opening, just below the pair of projections of the middle series; this single projection seems to be slightly smaller and less protruding than the others. A bird in relief is perched on each pair of projections in the middle series and on the single nails of the upper series. No birds are perched on the lower series of projections.

According to Muller, the functional typology of Mul. 168 is 'Table à degrés', i.e. a kind of table with two flat surfaces at different height used for placing cultic offerings. This interpretation is based mainly on the glyptic iconography of the two level table shown between a seated god and the standing offerer.[112]

It is not easy to identify the exact kind of birds represented in the model. Doves and ducks have been mentioned to this regard.[113] In a cultic setting it is quite easy to explain the presence of birds since bird offerings are well know in the ancient Near East.[114] They may also be a realistic de-

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tion), XV.6 (short side view) and XVII.8 (long side view; the middle series of projections and other details are missing). Museum website: <www.egyptianmuseum.org>.

[109] Muller 2002: 60; cf. Muller 2002: 374, 'Époque présumée'.

[110] The description presented here is based on photos showing only two sides of the model; it is taken for granted that the other two sides present symmetrical features, as can be guessed from the photo in Muller 2002: fig. 168c.

[111] Cf. the description of this feature in Muller 2002: 60.

[112] Muller 2002: 129. See Muller 2002: pl. LXII-C for a selection of related glyptic.

[113] Muller 2002: 382, no. 173.

[114] For example, see Scurlock 2002: 374 (ducks) and 390 (doves). For a complete treatment in a given site and period, see, for example, Janković 2004.

tail, even if a symbolic explanation seems to be more fitting.

The wall projections, described as 'clous' by Muller, seem to be shaped like clay cones infixed in a wall. The position in height of the middle series prevents us from considering them as protruding ends of beams.[115] Muller considered the projections ('clous et protubérances striées') as architectural decorations ('décor architectural'), excluding that they were a functional feature of the model.[116] Therefore, they might be representations of nail knobs, providing a roughly idea of their installation in an ancient building.[117] In turn, this would suggest that the model represents a temple or a palace, since nail and tile knobs were generally associated with important buildings in the archaeological record. Anyway, I am inclined to think that they were quite common as decoration, maybe in smaller and less durable forms than the glazed tile knobs from Chogha Zanbil.

The model of the Rosicrucian Museum is not the only 'Maison à chambre haute' with wall projections. The most conspicuous are Mul. 170, Mul. 171 and Mul. 173.[118] The first two are dated to the late Bronze Age and therefore can be more or less contemporary to Chogha Zanbil. The presumed provenance is the Syrian Middle Euphrates for the first one, whereas the second one is known with the name of the city of Salamiyah, not far from Hama in western Syria. Both the dating and the provenance of the third one are dubious but it could be the Syrian Middle Euphrates in the late Bronze Age.

Mul. 170 has the projections only below the top of the second level.

Mul. 171 (Fig. 28) has the paired projections below the top of each level as in Mul. 168 but not at the half height of the second level. Birds are perched on each pair of projections.

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[115] Muller 2002: 375.

[116] Muller 2002: 89.

[117] The shape of the wall projections does not resemble the so-called "hands of Ishtar", baked clay life-size human fists found in all the major Neo-Assyrian sites and probably used as architectural decoration. There is also a consistent chronological difference with respect to the datings of Mul. 168 and other similar models. On the clay fists, see Frame 1991 and Moorey 1994: 314-315.

[118] Dating and provenance are given according to Muller 2002: 61 and 376-379, 381-382, nos. 170-171 and 173. Photos and drawings in Muller 2002: figs. 170, 171 (≈ Fig. 28) and 173 (≈ Fig. 29). The description is based on the photos published in Muller 2002.

Mul. 173 (Fig. 29) has the surfaces of the four sides of the second level dotted with roughly semispherical projections, set up in three more or less straight rows. Figures of birds are attached to the second level just above the ribbon marking the top of the first level. On the side facing the roof of the first level (now lost), two further rows of projections were added, one corresponding to the top ribbon of the first level on the other sides; some more projections are added near the top. On this face the birds are perched on the projections around the central opening. Together with the extra projection in Mul. 168, these features seem to confirm the preeminent position of this face. Probably it was more exposed to the sight than the others; actually, in the glyptic it faces the offerer.

In my view, the thick texture of projections in Mul. 173 is a good representation of the appearance of the external facades of the ziggurat of Chogha Zanbil. Anyway, the decorative function does not exclude a functional usage and/or a symbolic interpretation, as hinted by Muller:

> Il n'est pas exclu d'ailleurs qu'un élément architectonique à l'origine ait été exploité à des fins décoratives, puis soit devenu purement décoratif.[119]

TILE KNOBS FROM TALL-E MALIAN

Tiles and knobs (Figs. 31-32) probably joining together in two-element tile knobs were found in the EDD operation at Tall-e Malian (Fig. 30).[120] The archaeological excavations in 1972-1976 unearthed a complex with many functions built on the highest point of the city.[121] The building has been only partially excavated and the uncovered plan seems to be organized around a central courtyard. Elamite administrative tablets were found inside the building (especially in room 76), while it has been suggested that a room with a niche was perhaps used for worship or formal reception (room 96).[122] The building is dated to the Middle Elamite period and was probably

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[119] Muller 2002: 98.

[120] Carter 1996: 32-33 (level IV) and 45 (level III).

[121] Carter 1996: 14-15.

[122] Tablets: published in Stolper 1984. Room 96: Carter 1996: 12.

destroyed by fire around 1100-1000 BC. Elizabeth Carter suggested that the foundation date of the building is about 1250-1150 BC.[123]

Only few fragments of square tiles with a central hole were found. One type was glazed, ca. 27 cm wide,[124] being comparable with the tile with inscription of Shutruk-Nahunte from Susa (see above). Another type was smaller, ca. 12 cm wide, and is attested in two broken exemplars, one in terracotta and one glazed.[125] Traces of bitumen, used probably to waterproof the join with the knob, were found on the terracotta tile.

The two exemplars of small format tiles were found scattered 'just in front of the doorway leading out of room 26' together with 'over 38 knobs and knob fragments'.[126] 'A second, smaller group' of glazed knobs and 'another tile' were found scattered near the southeast doorway of the same room[127] which is the main room along the southwest arm (corridor 15) of the corridor running around the courtyard. Five fragments of the large format tile were found in corridor 15 together with five more knobs. Few knobs were found in the area to the north-west of the courtyard and outside the building in alley 25. The knobs shows variable heights (ca. 50-65 cm) and shapes; one exemplar has a base diameter of 90 cm.[128] It is interesting to note that only one knob can be joined to the large format tile.[129]

Three fragments of round glazed discs, plain or decorated with petals, were also found, with a central hole smaller than that of the square tiles.[130] According to Carter, 'these round objects may or may not have been wall

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[123] Carter 1996: 16.

[124] Carter 1996: 32 (description), fig. 30.1 (drawing = Fig. 32) and pl. 18.3A-B (photo).

[125] Terracotta exemplar (no. 1899): Carter 1996: 31 (description), figs. 30.2 (drawing = Fig. 32) and pl. 18.2 (photo). Glazed exemplar (no. 1897): Carter 1996: 32 (description), figs. 30.3 (drawing = Fig. 32) and 31 (reconstruction = Fig. 7b), and pl. 18.1 (photo).

[126] Carter 1996: 32; 'over fifty glazed clay knobs and a single tile' according to Carter & Stolper 1976: 37.

[127] Carter & Stolper 1976: 37; see also p. 38, figs. 2 (tile fragments) and 3-4 (knobs). This finding is not mentioned in Carter 1996 but it is shown on a plan (Carter 1996: fig. 9).

[128] No. 1756. Carter 1996: 32 (mention) and fig. 30.10 (drawing = Fig. 31).

[129] Carter 1996: 32.

[130] Carter 1996: 32 (mention), fig. 30.5-7 (drawings) and pl. 19.1 (photo).

decorations'.[131] It is possible that they were used as a wall protection to prevent wear in sensible points.[132]

See the following table for a detailed list of tile, knob and disc findings.

Level	Find spot	Large format glazed tiles	Small format glazed tiles	Small format terracotta tiles	Knobs	Glazed discs
IVA	Corridor 15	1* in 5 f			5	
	Doorway 141	1* in 3 f				
	Room 26	1	1 in 2 f	1[133]	38+ f, 'smaller group'	2 f
	Corridor 95					1 f
	Doorway 40				1	
	Corridor 139				1	
	Room 143				1	
	Door 140				1	
	Alley 25				4	
	Corridor 60		1[134]			
IIIB	Area 199	1 f[135]				

Table 4. Find spots of tiles, knobs and discs from the Middle Elamite building at Tall-e Malian (f: fragment(s); *: probably the same tile).

According to Carter, the finding of knobs is 'the best archaeological evidence for some kind of religious activity in the complex'.[136] Carter also suggested that 'the tiles were removed before the building burned, but the knobs, broken in order to remove the tiles, were left behind'.[137] In 1976,

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[131] Carter 1996: 32.

[132] Cf. the terracotta disc from Mari mentioned in Fiandra 1982: 15; photo in Fiandra 1982: 14, fig. 27. See also Damerji 1987: 169-171.

[133] Assigned to corridor 15 according to the 'Find spot' caption of Carter 1996: fig. 30.2.

[134] Carter 1996: fig. 30.4 (= Fig. 32).

[135] Carter 1996: 45: 'but it may well be from the level IV building'. Drawing in Carter 1996: fig. 43.2.

[136] Carter 1996: 15; see also p. 33.

[137] Carter 1996: 33; see also p. 11.

Carter and Matthew Stolper had stressed the connection between wall knobs and doorways both at Chogha Zanbil and at Malian. Anyway, they did not consider the knobs as locking devices:

> [The glazed wall knobs] are fragments of architectural ornament, fallen from the doorjambs or from the doors themselves during the destruction of the building. If so, each knob once crowned an undecorated peg used to fix a tile to the wall or the door.

Carter and Stolper themselves found some objections to this hypothesis:

> first there are many knobs but few tiles; second, several of the knobs appear to be unfinished or incorrectly made. It is possible that the southwest room [= room 26] of the burned building was the most lavishly decorated portion of the structure yet exposed; but it is equally possible that the functions of the room included manufacture, storage or simply disposal of glazed ornaments.[138]

In my opinion, considering also the other traces of manufacturing activities in the building, the second scenario seems to be the most likely. The connection with doorways seems to be not particularly meaningful, considering the finding of knobs in corners and other spaces of the building. Finally, the wide variety of shapes and sizes warns us to consider all the knobs as having only one kind of function and placement.

like (AND *huphupum*) AT TALL-E MALIAN AND SUSA (TTM I AND MDP 9)

If it had been possible to measure the percentage of human artefacts that has come down to us from a determinate moment in the past, we would have been more aware of how little we can know about the ancient Near East. Even considering the intellectual heritage handed down by written sources or inferable by iconography or other physical remains, this percentage would not have increased too much. Therefore, it is astonishing that so many connections have been found in those shreds of past that are known to us. I think that man is instinctively trained to see connections, even when data is scanty and not much reliable, taking for granted many details. The following case could be a good example since, even if the words are surprisingly the same in different places and typologies of

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[138] Carter & Stolper 1976: 37.

documentation, we are tempted to assume that their meaning, referent and context are the same.

We have already encountered the word *like* in two single isolated documents, an administrative text from Persepolis (500 BC ca.) and a royal inscription from Chogha Zanbil (14th century BC), then we have found the word *huphupum* at Susa (12th century BC). Both *like* and *huphupum* are also attested in the Elamite administrative corpus discovered in the Middle Elamite building of Tall-e Malian and dated around 1000 BC.[139]

Malian lays at ca. 50 km from Persepolis, on the opposite side of the Marv Dasht plain. As it is well known, Malian is identified with the ancient city of Anshan on the ground of the mention of this toponym in the above-mentioned administrative tablets[140] and in a stray brick bearing a text which is compatible with the one written on some brick fragments excavated at Malian.[141]

In the published administrative documents, counting 99 tablets, *like* is attested three times, always with the spelling li-ké^{MEŠ}.[142] *huphupum* is attested in 14 tablets for a total of 22 occurrences; in three multiple-issue or summary tablets it is attested more than once.[143] The spellings are several and can be summarized as follows:

hu-up-hu(-up)-pu(-um(-ia))[144]

Only in one occurrence (TTM I 84:8) *huphupum* is followed by MEŠ; in the same tablet it is also attested without MEŠ.[145] In the Malian documents, MEŠ is used as a marker of logograms and foreign words, but not systematically.[146] In some occurrences it may have the function of plural marker, but this would be excluded if the isolated evidence from TTM I 24:2 (1 li-

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[139] Published in Stolper 1984 (TTM I). Dating: Stolper 1984: 5-9; cf. Steve & al. 2002-2003: 471.

[140] Stolper 1984: 15.

[141] Reiner 1973a.

[142] TTM I 24:2; 25:3; 67:6.

[143] TTM I 32:3; 33:2; 34:1; 36:3; 37:6; 38:3; 58:2; 68:2,6; 69:8; 72:4; 78:2,4′; 84:4,8,12,5′,9′; 96:3,6,11; 97:5.

[144] Add also the spelling hu-up-hu-up-<<hu>>-pu in TTM I 36:3, emended by M.W. Stolper.

[145] MEŠ is restored by Stolper in three of the four other occurrences.

[146] Stolper 1984: 20.

ké^{MEŠ}) is generalized. This is relevant to our discussion since the three occurrences of *like* are always followed by MEŠ, suggesting that it is a loanword. Stolper also remarked that lu-gu-ú is a foreign word (seen from a Mesopotamian perspective) for *daltu* 'door' in the so-called explicit version of the synonym list *malku = šarru*.[147] Similarly, the only occurrence of *huphupum* with MEŠ, even if isolated and not systematical, seems to suggest a foreign origin, as already noted on the ground of the Akkadian-like ending *-um*. It should also be explained what we intend for 'foreign word': was MEŠ used just like our italics to mark a foreign word, i.e. a word that the reader is not expected to fully understand? Maybe it was so, and MEŠ marked the end of such possibly unknown word, but I am inclined to think that *like* was instead a well known word.

Here is the full context for one of the occurrences of *like*:

TTM I 24
Obverse
|1 1 5/6 MA.NA za-bar^{MEŠ}
|2 1 li-ké^{MEŠ}
Lower edge
|3 PI+PÍR ki-ri-ak-šir$_8$
|4 ^{AŠ}ITI NIN-ì-lí
Reverse
|5 ^{AŠ}UD 17^{KÁM}
|6 ^{AŠ}an-za-an

1 5/6 *mana zabar*[148] 1 *like*
kur(-ma-n)?[149] *Kirikšir*
ITI *Bēlet-ilī, nan* 17th
Anzan.

1 5/6 mina[150] of copper (for) 1 *like*
under the responsibility of Kirikšir

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[147] Stolper 1984: 54; already Scheil 1907: 35. K. 4375, reverse ii:15: lu-gu-ú = MIN (= da-al-tum), not explicitly marked as foreign word with NIM or SU. Copy in CT 18 3. See also Salonen 1961: 50 and 93. Also CAD L (1973): 239, s.v. lugû. On the list *malku = šarru*, see Kilmer 1963; CT 18 3 is mentioned on p. 422.

[148] *zabar*: probably a 'Kulturwort' (Stolper 1984: 10); I follow Stolper in translating it as 'copper'. Cf. *sahi(-n/a)* 'bronze' in Elamite (Hinz & Koch 1987: 1058-1059, s.v. sa-hi-i, sa-hi-in and sa-hi-ya).

[149] PI+PÍR = kur$_e$ according to Basello 2011: 69-74, §2.3.

[150] About 1 kg.

(in the) month Belet-ili, 17th day
(at) Anzan.

In the Malian tablets, *like* and *huphupum* are connected to the following materials: *zabar* 'copper', *anaku* 'tin' (cf. Akkadian *annaku*) and *lulu* 'antimony' (cf. Akkadian *lulû*).

like (li-ké = lu-gi in Scheil's transliteration) is also attested in the administrative Elamite tablets found on the Acropolis of Susa and dated close to the Achaemenid period.[151] *like* is always followed by AN.BAR^{MEŠ}(-na) '(in) iron'.[152] The associated quantities of minas are somewhat higher than the ones attested in the Malian tablets.

A further, uncertain, occurrence of *like* is in the Persepolis bronze plaque where, in a difficult passage, one can read:

Persepolis bronze plaque:r18
... ap-pa li-ki sa-ah-i-ma tal-li-ha ...[153]
... apa liki sahi-ma tali-h-a ...
... which I have written on a bronze *liki* (= *like*[?]) ...

In all these contexts, we are dealing with objects in metal. Stolper suggested the translation 'peg, bolt' for *like*[154] and argued that *huphupum* indicated 'not only a finished product, but also a constituent of other products, and perhaps an ingot of characteristic shape'.[155] It is also possible that these administrative tablets from Malian and Susa dealt with tile knobs in metal (i.e. knob-plates), like the ones known from Urartu, used as a decoration for royal and/or public/institutional buildings.[156]

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[151] See Steve & al. 2002-2003: 480; Tavernier 2004: 30-32 ('*ca.* 590/580-565/555' BC).

[152] MDP 9 30:1; 49:9; 80:r2; 130:7; 137:4; 141:7; 145:r3; 157:r5; 186:1; 187:r6.

[153] Transliteration checked on the original document by the author. Thanks are due to the National Museum of Iran, Tehran, for permission to study this text. On the Persepolis bronze plaque, see Basello 2013 with further references.

[154] Stolper 1984: 53.

[155] Stolper 1984: 61.

[156] Cf. also the hollow bronze knob from Persepolis (PT5 814; Schmidt 1957: pl. 42.26): height ca. 9 cm, knob diameter ca. 8 cm (measure taken and scaled accordingly to Schmidt's plate), from the portico of the so-called Throne Hall (building M), plot GF 30. On Urartian wall knobs, see the article by Roberto Dan in this volume (Dan 2012).

like AT PERSEPOLIS (DPI AND XPI)

The next evidence comes again from Achaemenid period. We are lucky enough to have, perhaps, some other real exemplars of *like* and to know its name also in Old Persian and Babylonian. A total of at least six "wall discs" and fragments (five inscribed and one anepigraphical) are known from Persepolis, while two fragments were found at Susa (one inscribed and one anepigraphical). In the best preserved exemplars, a shaft with square cross section protruded from the top (according to the orientation of writing) of a thick disk; the inscription is written in white glaze on the lateral surface of the disc; a round stem curving inward protruded below. Both the square shaft and the round stem are broken in the extant exemplars. A perforation (diameter ca. 1 cm) pierced the square shaft from side to side at ca. 2.5 cm from the top of the disc.[157] A catalogue follows.

Siglum: **DPi^{a} (Fig. 33)**
Inventory: NMI 2101
Lines and language arrangement: 1 OP
1 AE AB
Frame: type 1[158] with small void dividing cells
Finding location: Persepolis, building C (so-called Harem), unspecified find spot (Herzfeld 1938: 23; cf. Schmidt 1957: 50)
Present location: National Museum of Iran, on display, left one
Material: 'aus künstlichem lapislazuli' (Herzfeld 1938: 23); 'um gebrannten Ton' (Schweiger 1998, vol. 2: 33 and fn. 8)[159]
Description: the square shaft is completely lost and it seems difficult to imagine that it was part of the object; a roughly circular depression is visible in its stead on the top of the disc
First publication: Herzfeld 1938: 23, no. 10
Drawing: Herzfeld 1938: 23, fig. 11
Photo: Herzfeld 1938: pl. VII, top left and right
Schmitt 2000: pl. 34

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[157] Measured on Schmidt 1939: 63, fig. 42 (DPi^{c}).

[158] According to DARIOSH classification of border styles, i.e. single-line rules separating the text lines and connected to a single-line frame border.

[159] The round stem is crumbled and seems to be blue also inside, even if other chipped parts of the disc appear to be grey. Grey patches are visible also on the surface of the exemplar with DPi^{c} inscription.

Siglum: **DPi^{b}**
Inventory: PT2 647; OIM A 19489
Lines and language arrangement: 1 OP
1 (AE lost) AB
Frame: extant single-line rules compatible with type 1
Finding location: Persepolis, building C (so-called Harem), unspecified find spot (Herzfeld 1938: 23; cf. Schmidt 1957: 50)
Present location: Oriental Institute Museum, Chicago
Material: 'aus künstlichem lapislazuli' (Herzfeld 1938: 23); '??' (Schweiger 1998, vol. 2: 34)
First publication: Herzfeld 1938: 23, no. 10
Description: small fragment of the disc with a small part of the inscription preserved
Photo: Herzfeld 1938: pl. VII, middle

Siglum: **DPi^{c} (Figs. 34-35)**
Inventory: PT5 112; NMI 2405
Size: extant height 8.5 cm, disc diameter 11.4 cm (Curtis & Razmjou 2005: 96, no. 83)
Lines and language arrangement: 1 OP
1 AE AB
Frame: type 1 with small void dividing cells
Finding location: Persepolis, building C′ (north section of the so-called Harem of Xerxes), room 8; 'Room 6 ... of the northern series of the Harem section, which was constructed during Xerxes' time' (Schmidt 1939: 62; note the different room number); 'Close to the northern wall, on the floor opposite the doorway' (Schmidt 1953: 256); 'floor of Room 8' (Schmidt 1957: 50)
Present location: National Museum of Iran, on display, right one
Material: blue composition
First publication: Schmidt 1939: 62
Description: more than half of the disc preserved; square shaft broken off at perforation; two orthogonal wedges, one crossing the other, were engraved near the perforation[160]
Drawing: Schmidt 1939: 63, fig. 42
Photo: Schmidt 1957: 50, fig. 4 (three different views)
Curtis & Razmjou 2005: 96, no. 83.

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[160] According to Cameron (apud Schmidt 1957: 50), they were part of the Old Persian sign m, perhaps beginning the word *mayŭxa*; Schmidt remarked that they could 'simply be the mark of the artisan'. The two wedges are crossing and this is unusual in the Old Persian epigraphy. Cf. the 'arrow-shaped symbol' (Schmidt 1957: 73) on the fragment of limestone horn PT5 372 (Schmidt 1957: 74, fig. 11B).

Siglum: **DP^{d} (Fig. 36)**
Inventory: OIM A 29808 b
Size: disc diameter ca. 10.9 cm (see Schweiger 1998, vol. 2: 35)
Lines and language arrangement: 1 OP
1 AE AB
Frame: type 1 with small void dividing cells
Finding location: Persepolis, building C (so-called Harem), 'in der Nähe zur Schwelle einer Türe' (Schweiger 1998, vol. 2: 35)
Present location: Oriental Institute Museum, Chicago
Material: blue composition
First publication: Schweiger 1998, vol. 2: 35
Description: square shaft broken off at perforation
Drawing: Schweiger 1998, vol. 2: 35, fig. 4
Photo: Schweiger 1998, vol. 2: 36, fig. 5

Siglum: **XPi**
Inventory: PT2 646; OIM A 19488
Lines and language arrangement: 1 OP
1 AE (AB lost)
Size: extant height 7.5 cm, disc diameter 11.1 cm (Schweiger 1998, vol. 2: 101)
Frame: extant single-line rules compatible with type 1
Finding location: Persepolis, building C (so-called Harem), unspecified find spot (Herzfeld 1938: 23; cf. Schmidt 1957: 50)
Present location: Oriental Institute Museum, Chicago
Material: blue composition
First publication: Herzfeld 1938: 23, no. 11
Description: the disc is heavily damaged and only two roughly orthogonal sections of the inscription are preserved; the square shaft is completely lost
Photo: Herzfeld 1938: pl. VII, bottom left and right
Dayton 1978: 383, fig. 349 (said to come from Hasanlu)

Siglum: **Schmidt 1957: pl. 42, no. 27 (anepigraphical)**
Inventory: PT5 835
Size: disc thickness 2 cm, original disc diameter 11.4 cm (measured on Schmidt 1957: pl. 42, no. 27)
Finding location: Persepolis, building D, western room below building, plot IF 11 (Schmidt 1953: 269; Schmidt 1957: pl. 42, no. 27)
Present location: lost at sea (Schmidt 1957: 152)
Material: blue composition
Description: anepigraphical; 'fragments of a peg of blue composition without inscription' (Schmidt 1953: 269); 'apparently identical in

form and material with inscribed specimens of Darius and Xerxes' (Schmidt 1957: 74); 'disk with remnants of one rectangular and one cylindrical process' (Schmidt 1957: pl. 42, no. 27); the square shaft is broken near the disc
Drawing: Schmidt 1957: pl. 42, no. 27

Siglum: **none (anepigraphical)**
Inventory: PT1 5; A 19368
Present location: Oriental Institute Museum, Chicago (?)
Description: 'A blue fragment (PT1 5) that necks out from a basal platform might have formed a leg or pedestal of an object, or, as Dr. Schmidt suggests, it may have been a projecting wall peg' (Fredrick R. Matson apud Schmidt 1957: 133).

Siglum: **DSac; Amiet 1990: no. 30**
Inventory: Sb 18418
Size: disc thickness 2.2 cm
Lines and language arrangement: 1 OP
1 (AE lost) AB
Frame: extant single-line rules compatible with type 1
Finding location: Susa
Material: blue composition; ' "bleu égyptien" ' (Amiet 1990: 216)
First publication: Amiet 1990: no. 30
Description: disc fragment, probably from a disc like the ones from Persepolis; two extant OP signs; one extant AE sign; 'fragments d'un clou "mural" ... qui ... a perdu le pommeau qui le surmontait, pour permettre d'y attacher le lien fermant une porte' (Amiet 1990: 216)
Photo: Amiet 1990: 224, no. 30

Siglum: **Amiet 1990: no. 29 (anepigraphical)**
Inventory: Sb 18417
Size: extant width 9.9 cm, disc thickness 2.5 cm
Finding location: Susa
Material: blue composition; ' "bleu égyptien" fin et poli' (Amiet 1990: 219, no. 29)
Description: anepigraphical; 'disque épais, légèrement concave d'un côté et convexe de l'autre; il est soigneusement poli' (Amiet 1990: 215); 'fragment de pommeau' (Amiet 1990: 219, no. 29)
Photo: Amiet 1990: 224, no. 29

Except perhaps DPi[a], all were made of a special artificial composition where a blue pigment ("Egyptian blue") resembling the lapis lazuli colour

was mixed with a binding agent,[161] so the discs are blue also inside. In the inscribed exemplars, the extant portions of text are compatible with the entirely preserved inscription of DPi[d], except in one case (XPi) for the name of the king, Xerxes instead of Darius. The name of the king is not preserved in the inscribed exemplar from Susa (DSac).[162] It is likely that many other inscribed and anepigraphical exemplars were installed at Persepolis and Susa. Similar pieces were excavated in the buildings south of the Persepolis platform during the excavations led by Akbar Tadjvidi (1969-1972), today in the storerooms of the Persepolis Museum.[163]

The inscription is brief, but not limited to the name of the king as in the nail and tile knobs from Chogha Zanbil. The signs are smaller than the ones on the heads of knobs from Chogha Zanbil and more carefully written. The Old Persian text of DPi runs as follows:

DPi OP
m-y-u-x : k-a-s-k-i-n : d-a-r-y-v-h-u-š : XŠ-h-y-a : vi-i-θ-i-y-a : k-r-t
mayŭxa kāsakaiṇa, Dārayavahauš xšāyaθiyahyā viθiyā kṛta.

Some translation proposals follow:

Herzfeld 1938: 23:
Knauf* aus blaustein, für des königs Dareios palast gemacht.
* 'Thürknauf' in the caption of Herzfeld 1938: 23, fig. 11.

Kent 1953: 137:
Door-knob of precious stone, made in the house of Darius the King.

Schweiger 1998, vol. 1: 15
Wandknauf,[164] aus *Kāsaka* bestehend, im Hause des Königs Darius gemacht.

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[161] Moorey 1994: 186-189; the evidence from Persepolis is treated on p. 188.

[162] The fact that the vertical alignment of the extant signs coincides with the one in DPi[c] (see the drawing in Amiet 1990: 216, fig. A) is not meaningful for the attribution to one or the other king, since the preserved portion of text is at the beginning of the inscription, before the name of the king.

[163] Tadjvidi 1976. This evidence has been brought to my attention by Alexander Nagel (personal communication, 2010, January 21). On the excavations led by Tadjvidi, see Mousavi 2002: 240-245.

[164] Also 'Türknauf oder Wandhaken o.ä.' (Schweiger 1998, vol. 2: 33) and 'Türknopf o.ä.' (Schweiger 1998, vol. 2: 101).

Schmitt 2000: 65:
Peg (or knob) of semi-precious stone, made at the palace of Darius the king.

Curtis & Razmjou 2005: 96, no. 83:
Peg of lapis lazuli [*sic*] made in the house of Darius the King.[165]

Schmitt 2009: 120:
Knauf aus Halbedelstein(imitat), an des Königs Dareios Hof hergestellt.

Interestingly, the focus is not on the king as the subject of the action (as in 'I Untash-Napirisha') but on *mayŭxa-*, considered the name of the text carrier itself, which opens the inscription. *mayŭxa-* is variously translated.[166]

The structure of the text, changing only the name and material of the text carrier, is known also from other Achaemenid royal inscriptions which Herzfeld called 'zugehörigkeits-inschriften'.[167] The main example is the inscription DPc,[168] on the frame of windows and niches in the so-called Palace of Darius at Persepolis (building I):

DPc OP
ardastāna aθangaiṇa, Dārayavahauš xšāyaθiyahyā viθiyā kṛta.
Stone window-frame,[169] made at the palace of Darius the king.[170]

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[165] '[*sic*]' is part of the quotation.

[166] To the words adopted in the above-mentioned translations, add 'peg' used by Schmidt (e.g. Schmidt 1939: 62; 'wall peg' in Schmidt 1957: 50).

[167] Herzfeld 1938: 24. Cf. the Assyrian 'label' inscriptions (Grayson 1981: 39) or the Neo-Babylonian 'nomination inscriptions' (Da Riva 2008: 108).

[168] W.B. Henning was able to recognize an Elamite instance of these 'ownership-inscriptions' in two cuneiform signs and the last wedge of a third one (-e-ma hu-) in the square piece of silver (extant width 1.7 cm) of the Kabul hoard (Henning 1956). Incidentally, Henning made reference to DPi and XPi as inscriptions on 'door-knobs made of artificial lapis lazuli'.

[169] See Tavernier 2007: 35, no. 1.4.4.2. Note the translation 'stone sill' in Henning 1956: 328: 'Old Persian *ardastāna*, which (as has hitherto escaped notice) survives in Persian *āstān*(*e*) (shortened from a theoretical **ālstān*), 'threshold, sill' '.

[170] Translation according to Schmitt 2000: 55. Cf. Schmitt 2009: 115: 'Steinerner Fensterrahmen, gemacht am Hofe des Königs Dareios'.

Both in DPc and DPi/XPi, the translation of the first word was based more on the shape or presumed function of the text carrier itself than on philological considerations.

Considering the Indo-Iranian linguistic data, *mayŭxa-* has a cognate in Sanskrit *mayúkha-*, mostly used to refer to 'peg', especially for hanging clothes.[171] The Upanishads and other Sanskrit texts also attest the (metaphorical?) use of this word as 'ray of light' or 'flame', also in compounds.[172] Adriano V. Rossi suggested that the wall knobs could be interpreted originally as starting or terminal points in a sort of connection path with the divine world, especially if they were placed on external walls, with a basic conception not too much far from the Sun-related significance of Egyptian obelisks.[173] I do not know if the interpretation of a 'peg' as a 'ray', common in the Indian tradition, could be applied to Mesopotamia or, vice versa, originated there. Independently from these considerations, Lubotsky considered **maiūkʰa-* as a substrate word in his list of Indo-Iranian isolates.[174]

In Middle Persian, Modern Persian and other New Iranian languages, *mix* and cognate words have generally the meaning of 'peg', 'nail', 'pin', 'stake' or 'spike'.[175] Therefore, the attribution of the meaning 'doorknob' to *mayŭxa-* has no linguistic grounds and probably originated from the shape of the object.

According to Schmitt, the object was made 'at' (locative) the royal palace/court of Darius, not 'for' it.[176] This seems to be coherent with the well known passages of the inscription DSf where several materials came from far away but were processed in the *hadiš*:

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[171] Monier-Williams 1899: 789, s.v. *mayúkha-*. See, for example, *Rigveda* X 130:2.

[172] See West 2002: 54-55 for an interesting parallel between Upanishads and royal Achaemenid iconography.

[173] A.V. Rossi, personal communication (2010, December 7).

[174] Lubotsky 2001: 311. Note also that the meaning 'doorknob' attributed to Old Persian *mayūxa-* has no check in the cognate words quoted by Lubotsky.

[175] I would like to thank Ela Filippone for checking New Iranian linguistic data (personal communication, 2010, December 11).

[176] Schmitt 2000: 55. Cf. Schmitt's translations of *viθiyā* in DB OP IV:66 §63 (Schmitt 1991: 71: 'the man who strove for my (royal) house, ...'; Schmitt 2009: 83: 'der Mann, der sich einsetzte für mein Haus, ...'); these translations have been brought to my attention by Ela Filippone (personal communication, 2010, December 4).

DSf OP:37-40[177]
kāsaka haya kapaṷtaka utā sinkabruš, haya idā kṛta, – haṷ hacā Sugudā ăbariya;
der glaublaue Halbedelstein (Lapislazuli?) und der Karneol (?),
der hier verarbeitet worden ist, – der wurde von Sogdien
(herbei)gebracht;

kāsaka haya axšaiṇa, – haṷ hacā Uvārazmiyā ăbariya, haya idā kṛta.
der dunkelblaue Halbedelstein (Türkis), – der wurde von Chorasmien
(herbei)gebracht, der hier verarbeitet worden ist.

The central question is the deictic reference for *idā* 'here'. Coming back to DPi, I am inclined to think that *viθ-* could be used both in reference to the royal family as a group of individuals and to the properties of the king in an institutionalized way (the Royal House), since public and private spheres were inextricably interlinked and had to be administered by many officers and employees. In this case, the locative implications are not to be intended as 'physically produced in the palace' but 'made in the framework of such institution', supporting the royal family.

Whatever interpretation one prefers, the focus is on ownership. In this perspective, one could say that writing originated for attesting ownership, not for economic or strictly administrative needs. Writing was needed especially to identify state/public properties which would have been impersonal if they had not been placed under the name of the king. Before writing or other figurative means of symbolic writing like sealings, one possessed only what he could physically control using his strength. In the special case of the king, the claim of ownership is also a mean to attest lordship and to preserve his memory for the future.

As in DPc, the second word of the inscription DPi OP is interpreted as referring to the material of the text carrier. *kāsakaina-* is an adjective derived from *kāsaka-*.[178] *kāsaka-* is attested in the above-quoted lines from DSf (DSf OP:37 and 39), where it is qualified by *kapaṷtaka-* (probably 'blue'[179])

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[177] Transcription and translation according to Schmitt 2009: 132.

[178] Kent 1953: 51, *147.III ('Secondary *-ina-*'); Brandenstein & Mayrhofer 1964: 130, s.v. kāsaka-.

[179] Brandenstein & Mayrhofer 1964: 129, s.v. kapautaka-; Tavernier 2007: 36, no. 1.4.5.2 and p. 80, no. 2.4.5.3.

and *axšaina-* (perhaps 'not bright'[180]).[181] The corresponding Elamite passages (DSf AE:32 and 34) do not help in explaining the meaning of *kāsaka-* since a loanword (^{AŠ}ka$_4$-si-ka$_4$) was used.[182] In the Babylonian text of DSf, *kāsaka haya kapaṷtaka* corresponds to ^{na4}ZA.GÌN *uqnû* 'lapis lazuli' (DSf AB:26).[183] From this correspondence, the meaning 'lapis lazuli' was inferred for *kāsaka haya kapaṷtaka*. From the point of view of Indo-Iranian comparison, *kāsaka-* has also been compared with Modern Persian *kāšī* 'tile' and with Sanskrit *kācá-* 'glass', conveying the idea of brilliance and reflection.[184] A meaning like 'gemstone' for *kāsaka-* seems to fit all the occurrences and comparative data.

It is possible that *kāsakaina-* was used with the meaning 'gemstone-like' or as a technical reference to the blue composition, but I think that it should not be considered as a "literal" designation of the material of the text carrier: it simply means 'in (lapis lazuli) gemstone'. That lapis lazuli is intended here may be inferred from DPi AB (see below); moreover, considering the blue colour of the text carrier, it seems possible that *kāsakaina-* was a sort of abbreviated adjectival form for *kāsaka haya kapaṷtaka* 'gemstone which is blue', i.e. 'lapis lazuli'. Therefore, the translation of *kāsakaina-* should not be emended to reflect the blue composition. Royal inscriptions are ideological documents not very much interested in describing the reality, and the blue composition could be considered lapis lazuli in all respects. It is also possible that the blue composition discs were imitations of true lapis lazuli ones, perhaps installed in some special or more visible collocations; anyway, the writing in white glaze seems to be a feature specifically conceived for the blue composition.

Moreover, I think that the blue composition was considered a precious material, the production of which was the result of an expensive process by a skilled workshop. Theophrastus (*On stones* 55) provided us with an

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[180] Brandenstein & Mayrhofer 1964: 101, s.v. aḫšaina-; Tavernier 2007: 80, no. 2.4.5.2; also Tavernier 2007: 441, nos. 4.4.9.1-2. See also Rossi 2006: 466, fn. 45.

[181] See also Tavernier 2007: 61, no. 2.2.36 and p. 79, nos. 2.4.4.1-2, listing also two occurrences as anthroponym in the Elamite administrative tablets from Persepolis: PF–NN 1022:27 (^{HAL}ka$_4$-si-ka$_4$) and PF-NN 1560:5 (^{HAL}kaš-šá-ka$_4$).

[182] Text in Vallat 1972: 8-11.

[183] Text in Steve 1987: 75.

[184] Brandenstein & Mayrhofer 1964: 130, s.v. kāsaka-; cf. Kent 1953: 180, s.v. kāsaka-. See also Hoffmann 1986 and Rossi & Basello 2011: 3.

interesting account about *kyanos*, which is considered to be the blue composition[185]:

> σκευαστὸς δ' ὁ Αἰγύπτιος. καὶ οἱ γράφοντες τὰ περὶ τοὺς βασιλεῖς καὶ τοῦτο γράφουσι, τίς πρῶτος βασιλεὺς ἐποίησε χυτὸν κύανον μιμησάμενος τὸν αὐτοφυῆ, δῶρά τε πέμπεσθαι παρ' ἄλλων τε καὶ ἐκ Φοινίκης φόρον κυάνου, τοῦ μὲν ἀπύρου τοῦ δὲ πεπυρωμένου.[186]
>
> The Egyptian variety [of *kyanos*] is manufactured, and those who write the history of the kings of Egypt state which king it was who first made fused *kyanos* in imitation of the natural kind; and they add that *kyanos* was sent as tribute from Phoenicia and as gifts from other quarters, and some of it was natural and some had been produced by fire.[187]

According to Theophrastus, the *kyanos* was used as a tribute and a gift whose origin was worthy to be traced back to a king. The word *kyanos* itself derived probably from *uqnû*, the Akkadian term for 'lapis lazuli' and derived senses, as the 'lapis lazuli color'.[188]

The Elamite and Babylonian texts of DPi run as follows:

> ^{AŠ}li-ké ^{AŠ}ik-nu-maš-na ^{DIŠ}da-ri-ia-ma-u-iš ^{DIŠ}EŠŠANA ^{AŠ}ul-hi^{MEŠ}-e-ma hu-ut-tuk
> *like iknuaš-na Dariavauš sunki ulhi-e-ma (h)ut(a)-k.*
> *like* in lapis lazuli made in king Darius' (Royal) House.
>
> sik-kát kar-ri ^{na4}ZA.GÌN(*uqnû*) ina É ^{m}da-a-ri-ia-muš LUGAL e-pu-uš
> Knobbed nail (*sikkatu*) in lapis lazuli made in the (Royal) House of king Darius.

Thanks to the trilingual inscription, we know the possible equivalents of *mayŭxa-* in Elamite and Babylonian. *like* is the Elamite word used with reference to the text carrier, not differently from the Middle Elamite inscription TZ 57 on the knob from Chogha Zanbil. The simplest interpretation is to consider *mayŭxa-* as the closer equivalent to Elamite *like* in Iranian languages. In this connection, the metaphorical usages of Sanskrit

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185 Moorey 1994: 186.

186 Caley & Richards 1956: 27.

187 Caley & Richards 1956: 57.

188 CAD U (2010): 195-202, s.v. uqnû.

mayűkha- may suggest similar semantic extensions for its Old Persian cognate, as well.

The corresponding Babylonian word *sikkatu* does not help in clarifying the meaning of the word and the function of the related object since the translations 'peg', 'nail', '(part of a lock)', 'foundation cone' and 'wall cone' which are given in CAD should be understood with reference to the relevant contexts.[189]

Regarding the qualifications of *like* and *sikkatu*, while *iknuaš* is quite clearly connected to Akkadian *uqnû* 'lapis lazuli' (with the ending *-š*, common in Elamite words and usually attached to loanwords), *karru* refers to the shape and not to the material, meaning 'knob' or 'pommel'.[190] *karru* was used with reference to the pommel of a sword or dagger, and to knobbed parts of doors and chairs. Therefore *sikkat karri* means 'knobbed nail'.

The Elamite and Babylonian wordings converge towards the sense of 'made in the (Royal) House'.[191]

Regarding the function of the text carriers of DPi/XPi, I would like to exclude their use as doorknobs, indirectly suggested by Herzfeld's translation of DPi and retained by Kent, since their diameter (ca. 11 cm) is too great to be grasped by a hand. Schmidt remarked:

> It is possible that these objects were simply driven into a wall as ornaments after the fashion of Assyrian prototypes. The find-conditions of our pegs give no further clue as to their original locations.[192]

The exemplar DPi^{d} is exhibited in the Oriental Institute Museum of the University of Chicago in connection with a blue composition knob (OIM A 29808 a). Alexander Nagel remarked that, even if in this particular case the two objects are not physically connected, they were certainly somehow connected in other exemplars.[193] The inscribed discs were, therefore, part

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[189] CAD S (1984): 247, s.v. sikkatu A.

[190] CAD K (1971): 221, s.v. karru A.

[191] See Rossi 2003 for a discussion on the correspondences between *viθ-*, *ulhi* and *bītu* in the Achaemenid inscriptions.

[192] Schmidt 1957: 74.

[193] Alexander Nagel, personal communication (2010, January 10). Cf. Schweiger 1998, vol. 2: 35, fn. 14. Nagel has brought to my attention a similar piece of knob from the Tadjvidi excavations published in Stöllner 2004.

of wall knobs and acted as a kind of round tile with the writing on the lateral surface. The square shaft with perforation suggested that they were not infixed in stone or brick walls, but to less thick panels that were completely pierced by the square shaft, and fixed on the back by a peg running into the perforation. A comparison with the Neo-Assyrian 'knob-plates' with round tile seems to be fitting.[194]

sikkatu IN ELAM AND MESOPOTAMIA

The usage of the Akkadian word *sikkatu* in correspondence to Elamite *like* in DPi does not ensure a strict equivalence in the meaning(s) of the two words. Small divergences between the inscriptional units in Old Persian, Elamite and Babylonian are noticebale, whereas it is not clear which unit was conceived as the source for the drafting of the text in the other two languages. Even if Akkadian and Elamite had a well established tradition of formulaic expressions to be used in similar contexts,[195] the wording of DPi seems to be quite different from the inscriptions analyzed above in the present paper. If we move from the linguistic evidence to the physical level of the involved objects, even more caution should be requested. Anyway, I cannot refrain from exploring the possibilities involved by the coterminous usage of Elamite *like* and Akkadian *sikkatu* in DPi.

The term *sikkatu* is attested in two Akkadian inscriptions of Puzur-Inshushinak (21st century BC, the last king of the Awan dynasty according to the king list from Susa[196]) from Susa. In one of these inscriptions, Puzur-Inshushinak celebrated the opening of a canal setting up a *sikkatu* in a door, suggesting that this was a public act to be performed in specific public places like the gate of a city:

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[194] Albenda 1991: 48, figs. 2-4; also in painted version (see Albenda 2005: 18). For a detailed treatment of the Assyrian wall knobs, see Nunn 2006.

[195] See, for example, the Assyrian label inscriptions beginning with É.GAL or KUR *(ša)* PN ... 'Palace of (king) PN ...'.

[196] Sb 17729. Béatrice André-Salvini in Harper & al. 1992: 261-263, no. 181. Text in Gelb & Kienast 1990: 317-320.

Elam 3 = Puzurinšušinak 2,II:4-7 and 11-13 (on the stela Sb 160)
|II:4 ù ì-nu |5 pá-la-ag |6 si-da-rí^{ki} |7 ip-te-ù ... |11 ù KÁ-šu |12 GIŠ.NI^{l} (read KAK) URUDU^{e} GIŠ.EREN |13 iš-ku$_8$-un[197]
and when he [= Puzur-Inshushinak] opened the canal of Sidari ... he supplied his [= of Inshushinak] gate with a nail (GIŠ.KAK = *sikkatu*) of copper (and) cedar.

The other inscription is entirely focused on the *sikkatu*:

Elam 4 = Puzurinšušinak 3,I:1-2, 4 and 11-12 (on the sculptured boulder Sb 17)
|I:1 a-na |2 ^{d}MÙŠ.EREN ... |4 puzur$_4$-^{d}MÙŠ ... |11 URUDU GIŠ.KAK EREN |11 A.MU.NA.RA[198]
To Inshushinak ..., Puzur-Inshushinak ... presented a copper nail (GIŠ.KAK = *sikkatu*) of cedar.

This passage led I.J. Gelb and B. Kienast to consider the boulder on which it is engraved as the nail itself 'in übertragenen Sinne',[199] whereas they interpreted the other passage as referring to the bolt of a temple door, since *sikkatu* is also the name of a peg in a locking device.[200] In my opinion it is difficult to keep apart the interpretation of these two passages, while I am not sure that they can be related to the relief representing a half-kneeling god who is driving a great (wooden?) peg into the floor or ground. This scene is engraved on a large fragment of a sculptured limestone boulder with several inscriptions, usually connected to Puzur-

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[197] Transliteration according to Gelb & Kienast 1990: 325; see also the corresponding translation: 'und sein (Tempel-)Tor mit einem mit Kupfer (beschlagenen) Zedernriegel versehen'.

[198] Transliteration according to Gelb & Kienast 1990: 328; see also the corresponding translation: 'Dem Inšušinak ..., Puzurinšušinak ..., diese "Gründungsurkunde" gestifte'.

[199] Gelb & Kienast 1990: 329, remark to line 11; note the insertion of a deictic element in the translation.

[200] Gelb & Kienast 1990: 327, remark to line 28. Since a temple is not mentioned in the text, it is possible that a gate of the city, named after Inshushinak and dedicated to him, was intended here. For *sikkatu* as part of a locking device, see Potts 1990. It is also possible, even if unlikely, that the act of driving the peg into the ground was a simple way to block a door, like a vertical bolt sliding into a hole in the floor in more elaborated installations (see for example Damerji 1987: 176, fig. 63).

Inshushinak and found at Susa.[201] The scene seems to represent a kind of ritual action involving a peg like the ones found in foundation deposits.[202] In my view, it is a symbolic representation that acknowledged the taking of possession of something by a god through the king's good offices.[203] A real peg could be infixed in the hole (diameter 10 cm) on the top of the boulder. The peg engraved on the boulder is similar in shape to the hollow clay peg from Susa, bearing a much discussed inscription of Atta-hušu.[204]

Meir Malul provided much useful textual evidence studying the occurrences of the expression 'to drive in the nail' (nail-clause) in Sumerian and Akkadian legal acts of the 3rd and 2nd millennia BC.[205] This legal usage is reflected, for example, in a passage from an Old Babylonian letter where the sender recounts to have prevented the designated beneficiary of a land from taking possession of it:

AbB 3 55:23
sikkatam ana mahāṣim ul addiššum
I did not let him drive in the nail (*sikkatu*)[206]

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[201] Sb 6: reconstructed diameter 80 cm, height 65 cm (Harper & al. 1992: 88, no. 54). Béatrice André-Salvini in Harper & al. 1992: 88-90, no. 54. On the inscriptions, see André & Salvini 1989: 54-58; also Desset 2012: 94 and 113. Only the linear Elamite inscription B and part of an Akkadian inscription (on the joint fragment Sb 177) are still readable. No mentions of Puzur-Inshushinak are preserved in the Akkadian inscription; [...]ᵀEREN¹.GAL (with EREN 'cedar') has been tentatively restored on line 3 according to André & Salvini 1989: 58 (cf. Scheil 1900: 66).

[202] André & Salvini 1989: 58. Cf. Ellis 1968: 80-81; also Ellis 1968: 90-91.

[203] Buccellati considered the 'copper and cedar nail' as a land surveying tool, i.e. 'a cedar log capped by a copper plate or disk, on which the critical reference point could be incised' (Buccellati 1994: 285-286). I am inclined to exclude such function since in other representations of a kneeling god with peg (e.g. Boehmer 1966: pl. LIV.19 and 21; note that the related inscriptions are common building texts found also on other text carriers like cones and bricks, e.g. RIME 3/1.1.7.16 and 41-42) the eyes of the god are not aligned to the top of the peg, i.e. the god is driving in the peg, not sighting across its top.

[204] Sb 15440, extant height 19.1 cm, diameter 7.6 cm; having a hole on the top (diameter 2 cm), it has also been considered as a cylinder. Béatrice André-Salvini in Harper & al. 1992: 264-265, no. 184, with further references. As for the theme of the preservation of deeds and memory of the ancestor kings, it is interesting to note that this peg bears signs of (ancient) restorations.

[205] Malul 1987. See also Malul 1991.

[206] Transcription and translation according to Malul 1987: 19, fn. 12.

According to Malul, in pre-Sargonic sale documents of houses and fields (once also in a slave sale), 'after the sale statement and the listing of the various payments ..., it is stated that the herald (niĝir) drove its (= the transaction's) nail into the wall'.[207] This usage may originate from the practical act of marking the extent of a field driving pegs into the ground. Anyhow, if one lives in a house made of earth or clay (as the common people surely did), the easiest way to state his property was to drive a peg into a wall, then write his name (or his symbol/mark) on it. A clay peg was, I think, the simplest type of unmovable text carrier in ancient Mesopotamia. Ownership is one of the main human concerns but it is not in the nature of things and one has to make or take a thing and maintain control over it in order to own it. Today we stay safe in or out of our houses secured by robust locks and electronic alarms, but elaborated devices[208] were conceived also in the past to protect a property while its owner was out and could not leave someone else in his stead to guard it. When physical means of protection are missing or put out of order, a (written) law is needed to ensure that a thing is one's own even if someone else has taken it. In the past as today, the easiest way to state ownership is to attach one's own name to a property: this is simple for an object, more complex for a field. From this point of view, *kudurru* and stelae are to a trampling floor as pegs or, better, knobs (i.e. the monumental version of pegs) are to a wall.[209] At the level of the conventions and habits of a society, a title deed is the written equivalent of a lock; the nails made this writing visible, either in a symbolic way (if anepigraphical) or in reality (not by chance royal inscriptions often end with a curse on thieves and vandals).

Malul stressed the importance of the visibility of the nail, rather than of the action of driving it in.[210] Perhaps nails were not (or not only) driven in the property but collected in a public suited place.[211] This is even more interesting, since it would attest that nails were used not only to mark ownership but also to communicate it in a legal (i.e. publicly recognized) way.

The preceding summary of the legal usage of nails has to be checked against each single corpus of documents. According to Lotte Oers, the

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[207] Malul 1987: 25.

[208] See Potts 1990.

[209] Buccellati 1994.

[210] Malul 1987: 23.

[211] Malul 1987: 27-29.

Akkadian legal documents from Old Babylonian Susa show a different usage, pointing to a merely symbolic action whose scope is limited to the legal record.[212] Two contexts were provided by Oers, the first related to field leases, the second to sales and loans of various kinds of property:

> A.ŠÀ ibbaqqarma ina É.DÙ.A/BAL.3^{kam} ^{giš}GAG *maḫṣat*
> should the field be claimed, a peg (^{giš}GAG = *sikkatu*) is driven in the house/3 BALs[213]

> *adi* KÙ.BABBAR/ŠE *utarru ina* É.DÙ.A/... ^{giš}GAG *maḫṣat*
> until he returns the silver/barley, a peg (^{giš}GAG = *sikkatu*) (stays) driven in the house/(other property)[214]

Even if the more or less symbolic character of the action is relevant to our discussion, moving from legal documentation to royal inscriptions, we can retain the strict connection between nails and ownership. Moreover, in an ideological perspective, where symbols need to be made visible and appearance is relevant, we can take for granted that the nails had to be physically used, as the many terracotta nails and cones found on the Acropolis of Susa attest.[215] Nails and cones, probably to be grouped under the Akkadian word *sikkatu*, were discovered in connection with monumental buildings since the earliest levels of the settlement.

In addition to the physical presence of inscriptions on nails or cones, the textual evidence of the royal inscriptions from Mesopotamia is instrumental in associating such text carriers with the name of the king. See, for example, the following passage from an inscription of the Old Assyrian king Erishum I:

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[212] Oers 2010: 133-134.

[213] See Oers 2010: 122, fn. 3 for the problematic interpretation of BAL.3^{kam} as the three districts of Susa.

[214] Transcription and translation according to Oers 2010: 121-122.

[215] See, for example: Jéquier 1900: 117, figs. 197-198 (both inscribed); Jéquier 1900: 136-137, figs. 349 and 350 (inscribed); Scheil 1900: 59-62 and pl. 12; Steve & Gasche 1971: 57, pl. 4.17 (Ur III); Steve & Gasche 1971: 71, pl. 8.4-6 (Akkadian period; no. 6 is inscribed with an inscription of Puzur-Inshushinak); Steve & Gasche 1971: 99, pl. 15.6-9 (Protodynastic); Steve & Gasche 1971: 161, pl. 33.1-38 (Uruk – Jemdet Nasr); Steve & Gasche 1971: 179, pl. 38.1-7 and 38.11-12 (with square undecorated tile) (Susa A1); Steve & Gasche 1971: 191, pl. 39.22-23 (Susa A2).

Erishum I A.0.33.1:19-22
If the temple (Assyrian *bētu* = *bītu*) should become dilapidated (vb. *anāḫu*) and a king of my status (*šumu* '(good) name') should wish to rebuild it (vb. *epēšu*), he must not disturb (vb. *râbu* D 'to displace, dislodge, to shake'[216]) the clay cone (sí-kà-tám) which I drove (vb. *maḫāṣu*) in(to the wall but, if necessary), he will restore (vb. *târu*) (it) to its place.[217]

In Akkadian sources, it is worth noting the frequent use of the verb *lamû* 'to encircle, to arrange decorations in a circular form, to encircle an object with decorations, to form a circle for magic purposes with sand, flour, etc., to wall a city, a precinct, to fence a garden, a house, etc.'[218] in connection with *sikkatu*. See, for example, the following passages from the inscriptions of Tiglath-pileser I (1114-1076 BC):

Tiglath-pileser I A.0.87.5:8′-9′
Its wall and [... I surrounded with] knobbed nails (sik-kàt kar-ri) to enhance its appearance (sí-ma-te-ša).[219]

Tiglath-pileser I A.0.87.10:67-69
I installed on its towers (*nāmaru* 'watch-tower') replicas (*tamšīlu*) in obsidian of date palms (and) surrounded (vb. *lamû*) (them) with knobbed nails (sik-kàt kar-ri) of bronze (ZA.BAR).[220]

This textual evidence suggests that the nail and tile knobs from Chogha Zanbil were lined up all around the ziggurat, just as the inscribed bricks were placed in rows completely surrounding it at regular height intervals, having probably also an apotropaic power in their wording, without mentioning the power that writing had in itself.

Marginally, in the Sumerian composition *Enmerkar and the Lord of Aratta*, when the Lord of Aratta inspected the tablet after the seventh voyage of the messenger, the cuneiform wedges are described as 'nails' (g a g = *sikkatu* in Akkadian), even if this was not an usual technical term in the domain of writing[221]:

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[216] CAD R (1999): 56, s.v. râbu B 2.

[217] Translation according to RIMA 1, Erišum 1 = Grayson 1987: 20.

[218] CAD L (1973): 69, s.v. lamû 2.

[219] Translation according to RIMA 2, Tiglath-pileser I 10 = Grayson 1991: 46.

[220] Translation according to RIMA 2, Tiglath-pileser I 5 = Grayson 1991: 55.

[221] Vanstiphout 2003: 96, endnote 57.

Enmerkar and the Lord of Aratta:540
inim dug_4-ga gag-am_3
The spoken words were mere wedges[222]

* * *

We have reviewed different kinds of evidence, both material and textual. From the point of view of their shape, nails, knobs and spools are quite similar, except for the size, which is smaller in the case of the latter. Spools had a practical function as locking device but also as hooks and pegs, used to hang various kind of things (clothes, curtains, lamps, objects, etc.). As other objects, they could be inscribed with the name of the owner or the official responsible for them. Spools and pegs were usually made of resistant materials, like metal or stone. Anyway, if the word used in Elamite to refer to spools is *huphupum*, I have to admit that they could also be glazed assuming a somewhat decorative function. Moreover, they could be dedicated to a god.

Our distinction in pegs, nails (i.e. pegs with a head) and knobs (i.e. nails with a knobbed head) was in fact irrelevant for the meaning of *sikkatu*, which is focused more on the overall function of being fixing or blocking devices than on shape.

Terracotta nails or cones were simple means of attaching a text to a movable or unmovable object and therefore to state one's own property. The fact that a peg or a nail could be used to block a door enforces the connection with the idea of ownership, since only the owner had the legal rights to open or close a door and to dispose of a property. Nails also had some symbolic meanings as it is reflected, for example, in the legal language and in the representations of a kneeling god with peg.

Nail and tile knobs were probably monumental version of nails, and probably they retained the symbolic meaning and the text carrier function of the ordinary nails. Anyway, it is possible that I am conflating different typologies of objects, also influenced by the Akkadian word *sikkatu*, which seems to be used indifferently with reference to one or the other object, to one or the other shape.[223]

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[222] Transliteration and translation according to Vanstiphout 2003: 86-87.

[223] See the criticism against the evolutive process 'secular peg [i.e. *sikkatu* in legal practice] > building peg [i.e. pegs in foundation deposits] > clay nails [i.e. decorative nail knobs]' in Ellis 1968: 82-91 (quotation on p. 90) with further references.

Nail and tile knobs had mainly a decorative function and therefore were made of glazed clay or metal.[224] In my opinion, their great size prevented them from being used as a device to hang something. It is likely that originally and also currently the tiles kept in place by nails or the nails with a wide flat head pushed against the wall had a specific architectural function as a protective coating for mud bricks.

It is not possible to ascertain whether the four *like* mentioned in the administrative tablet PF 335 were objects similar to the carriers of DPi and XPi. Like the English words 'knob' and 'nail', used to denote objects ranging from a driving control to a handle, *like* could be used to refer to various kinds of objects roughly sharing a nail or knob shape. As a peg or hook in a wall, a *like* could not have had a predefined function, being available at hand for different and unforeseen needs. However, it is tempting to find a connection between Puktaiza, the scribe of the tablets PF 666 and PF 1853, and the person with the same name who, perhaps, provided one *like* in PF 335, and it is fascinating to think that he had received the *like* to write the name of Darius on it. The name of the king affirms the royal ownership over that *like* and the place where it was installed as a notice and warning both for contemporary and future people. So many are the purposes of writing, just as the functions and shapes, maybe, of a *like*.

Note on chronology, transcription and epigraphic checks

Except when otherwise indicated, the cuneiform texts have been checked on the original exemplars or on photos of the original exemplars and the translations are by the author.

The Achaemenid royal inscriptions are referred to according to the sigla and paragraphing adopted in Schmitt 2009. Lacking an updated and comprehensive trilingual edition, please refer to the bibliographical section in Schmitt 2009: 7-32 for the Elamite and Babylonian texts. The paragraphing of the Old Persian texts has been followed also for Elamite and Babylonian for the sake of reference.

The transcription of Old Persian follows Schmitt 2009. The transcription of Elamite, elaborated by the author and to be discussed in a following publication (see also Basello 2006: 27), is experimental and not free from inconsistencies. Anyway, it has been felt as necessary in order to unifying

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[224] See also Nunn 2006: 91-98.

spelling variants in a writing that, like the other cuneiform ones, has a variable and redundant orthography. The aim of this transcription is not the reconstruction of a hypothetical pronounciation but the singling out of the phonemes; anyway, the Latin letters and diacritics used to represent them in transcription are conventionally chosen and do not point to a well defined phonetic value. In the framework of a minimalist approach, geminated and voiced consonants are avoided by conventional choice; comparisons among the attested spellings and, when available, the spellings of the same word or name in other languages have been taken into account. Note that the transcription varies for "classical" and Achaemenid Elamite.

Square and half square brackets mark, as usual, damaged and partially damaged text.

The chronological reference framework is given by the ultra-low chronology (Gasche & al. 1998 and 1998a; see the useful table 1 in Steve & al. 2002-2003: 378-386). Beyond single problematic issues, the ultra-low chronology has been chosen for its internal coherence and for the methodological care of the proposal.

Updates and corrections will be published on the website <www.elamit.net>.

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Sigla

AbB 3 Old Babylonian letters published in Frankena 1968.

DB Inscriptions of Darius I at Bisotun.

CAD *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*. Chicago, 1956-2010 (available on line at: <https://oi.uchicago.edu/research/pubs/catalog/cad/>).

CIE Drawings of Elamite inscriptions in König 1926.

CT 18 Drawings of Akkadian tablets in *Cuneiform Texts from Babylonian Tablets, &c. in the British Museum*, part XVIII, copies by R. Campbell Thompson. London, 1904.

DP Inscriptions of Darius I from Persepolis.

DS Inscriptions of Darius I from Susa.

EKI Elamite royal inscriptions published in König 1965.

IRS Elamite and Akkadian brick inscriptions from Susa published in Malbran-Labat 1995.

MDP 3 Inscriptions published in Scheil 1901.

MDP 9 Neo-Elamite administrative tablets from Susa published in Scheil 1907. See also Jusifov 1963.

Mul. Architectural models published in Muller 2002.

PF Achaemenid Elamite administrative tablets from the Persepolis fortification wall published in Hallock 1969.

PF-NN Unpublished Achaemenid Elamite administrative tablets from the Persepolis fortification wall, transliterated by Richard T. Hallock, now collated by Wouter F.M. Henkelman, Charles E. Jones and Matthew W. Stolper and partially available on line through OCHRE (Online Cultural Heritage Research Environment), <http://ochre.lib.uchicago.edu/PFA_Online/>.

RIMA 1 Assyrian royal inscriptions published in Grayson 1987.

RIMA 2 Assyrian royal inscriptions published in Grayson 1991.

RIME 3/1 Royal inscriptions of Gudea and his dynasty published in Edzard 1997.

TTM I Elamite administrative tablets from Tall-e Malian published in Stolper 1984.

TZ Middle Elamite royal inscriptions from Chogha Zanbil published in Steve 1967.

Abbreviations and symbols

AE Achaemenid Elamite.

AB Achaemenid Babylonian.

ca. Circa.

CVC A cuneiform sign transliterated as a sequence of consonant, vowel and consonant.

DN Divine name.

GN Geographical name.

NMI National Museum of Iran, Tehran.

OIM Oriental Institute Museum, Chicago.

OP Old Persian.

PN Personal name.

r Reverse of a tablet (in line numbers).

vb. Verb.

< Derived from.

<< >> Text considered by the editor as erroneously written by the scribe.

FIGURES (PLATES I-XX)

Figs. 1-2. The building facing the north-west side of the ziggurat of Chogha Zanbil:
1. Ghirshman 1966: pl. XXXIX.2;
2. Ghirshman 1966: 89, fig. 52.

Fig. 3a-b. The glazed terracotta knob G. T-Z. 55 with inscription TZ 57 from the Ishnikarap Temple at Chogha Zanbil (Steve 1967: pl. XXI.5-6).

Fig. 4a-b. Drawing of TZ 57 (Steve 1967: 100).

Fig. 5. The glazed terracotta bull with inscription TZ 53A from the north-eastern gate of the ziggurat of Chogha Zanbil, now in the National Museum of Iran, Tehran (photo by Gian Pietro Basello).

Fig. 6. Detail of TZ 53A, lines 1-7. mu-ši-a is written on line 3 (photo by Gian Pietro Basello).

Fig. 7a-b. Reconstruction of tile knob and wall attachment:
a. From Chogha Zanbil (Ghirshman 1966: 75, fig. 44);
b. From Tall-e Malian (Carter 1996: fig. 31).

Fig. 8. Plan of the ziggurat of Chogha Zanbil and neighbouring areas (Ghirshman 1966: plan III) with the known find spots of nail and tile knobs.
Fig. 9. Tile knobs from Chogha Zanbil (Ghirshman 1966: pl. XCVII).
Fig. 10. Nail knobs from Chogha Zanbil (Ghirshman 1966: pl. XCVIII).
Fig. 11. Heap of nail knobs blocking the north gate of the inner circle of wall of Chogha Zanbil (Ghirshman 1966: pl. XLIX.1).
Fig. 12. Heap of nail knobs on the north-east slope of the ziggurat of Chogha Zanbil (Ghirshman 1966: pl. XIX.1).
Fig. 13a-d. Bronze locks, maybe for latches, from Chogha Zanbil:
a. Ghirshman 1966: pl. XCVIII;
b. Steve 1967: 113, TZ VIIIa;
c-d. Ghirshman 1966: pl. XXXVI.2-4.
Fig. 14. The so-called Temple B of Inshushinak at the foot of the ziggurat of Chogha Zanbil (Ghirshman 1966: 36, fig. 25).
Fig. 15. The locking device in room 21 (Ghirshman 1966: 33, fig. 23).
Fig. 16a-b. The bronze peg G.T.Z. 433 from the doorway between rooms 20-21 of the ziggurat of Chogha Zanbil:
a. Ghirshman 1966: pl. XXV.5;
b. Ghirshman 1966: 32, fig. 22.
Fig. 17. Tile with central hole and inscription of Shutruk-Nahunte (II) from Susa (Jéquier 1900: pl. VI).
Fig. 18. Inscribed and anepigraphical glazed knobs from Susa (Lampre 1900: pl. IV). The inscribed one is Sb 700.
Fig. 19a-d. Glazed knobs from Susa, now in the Louvre Museum (not to scale):
a-c. *Atlas base des oeuvres exposées*, <http://cartelfr.louvre.fr>;
d. Scheil 1913: pl. XIV.
Fig. 20. Stone spools from Susa (Jéquier 1905: 33, figs. 31-33).
Fig. 21a-c. Spool from Susa (a) with inscription of a Kassite king (c); extant part of a similar inscription (b) on another spool (Scheil 1913: 32).
Fig. 22a-c. Spools from Nippur (Hilprecht 1893: pl. X.22-24):
a, c. Magnesite, top view, inscriptions of Nazi-Maruttash (Hilprecht 1893: nos. 57 and 56);
b. Ivory, side view, inscription of Burnaburiash (Hilprecht 1893: no. 34).
Fig. 23a-b. The spool H.T. 151 with the name of Adad-Erish from Haft Tappeh:

a. Negahban 1991: pl. 57, no. 492;
b. Negahban 1991: 106.

Fig. 24. Spools from Haft Tappeh (Negahban 1991: pl. 58).

Fig. 25a-b. Spools and clay lumps from Haft Tappeh (Ferioli & Fiandra 1979: pl. XIX, figs. 4-5):
b. Detail of a clay lump with sealing.

Fig. 26a-c. The architectural model Mul. 168 = RC 2084 in the Rosicrucian Egyptian Museum, San Jose, California (courtesy of the Rosicrucian Egyptian Museum):
a-b. Photos by Nestor Nunez;
c. Photo of the Rosicrucian Egyptian Museum.

Fig. 27. The architectural model Mul. 168 (Muller 2002: fig. 168a-b).

Fig. 28. The architectural model Mul. 171 (Muller 2002: fig. 171n-o).

Fig. 29. The architectural model Mul. 173 (Muller 2002: fig. 173c-e).

Fig. 30. Plan of levels IVA and B of the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 9) with find spots of knobs and tiles.

Fig. 31. Knobs from the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 30.9-17).

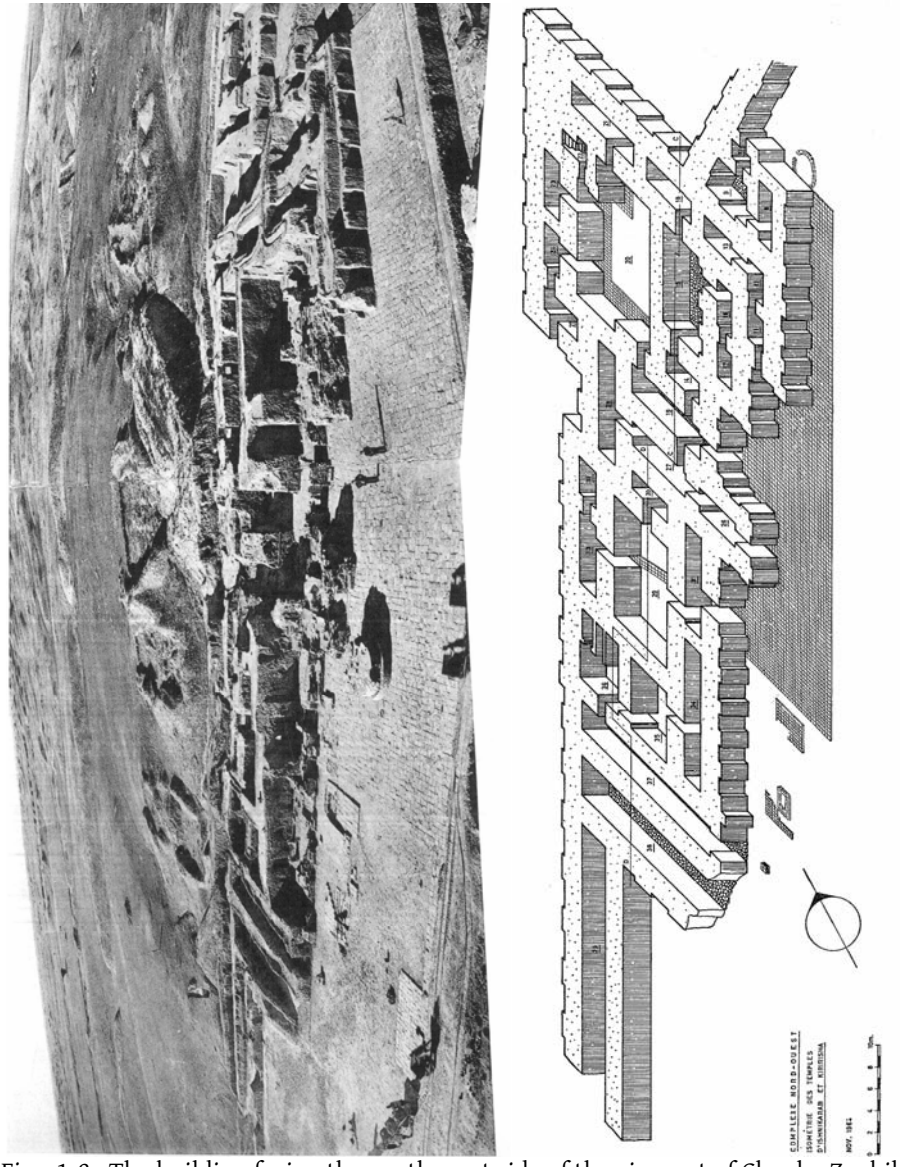
Fig. 32. Tiles from the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 30.1-4).

Fig. 33a-c. The disc with inscription DPi^{a} from Persepolis, now in the National Museum of Iran, Tehran (photos by Gian Pietro Basello, courtesy of the National Museum of Iran):
b. Detail of the inscription;
c. Top.

Fig. 34a-c. Bottom and side views of the disc with inscription DPi^{c} from Persepolis, now in the National Museum of Iran, Tehran (photos by Gian Pietro Basello, courtesy of the National Museum of Iran).

Fig. 35. Top view of the disc with inscription DPi^{c} from Persepolis, now in the National Museum of Iran, Tehran (photo by Gian Pietro Basello, courtesy of the National Museum of Iran).

Fig. 36. Knob and disc with inscription DPi^{d} from Persepolis, now in the Oriental Institute Museum, Chicago (photo by Alexander Nagel, courtesy of the Oriental Institute of the University of Chicago).

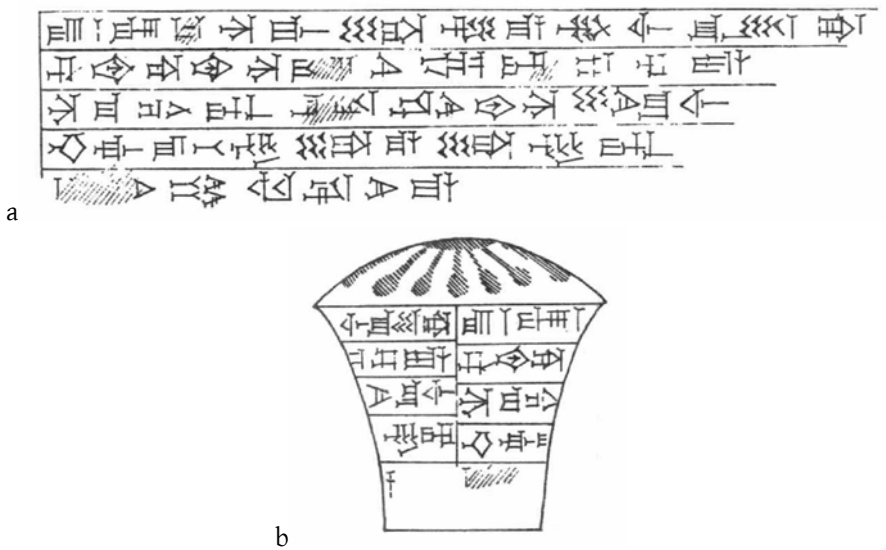


Figs. 1-2. The building facing the north-west side of the ziggurat of Chogha Zanbil:
1. Ghirshman 1966: pl. XXXIX.2; 2. Ghirshman 1966: 89, fig. 52.
The Ishnikarap temple is in the right wing.



a b

Fig. 3a-b. The glazed terracotta knob G. T-Z. 55 with inscription TZ 57 from the Ishnikarap Temple at Chogha Zanbil (Steve 1967: pl. XXI.5-6).



a

b

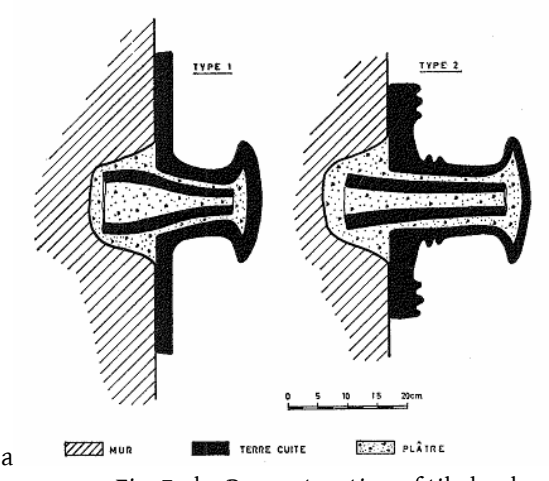
Fig. 4a-b. Drawing of TZ 57 (Steve 1967: 100).



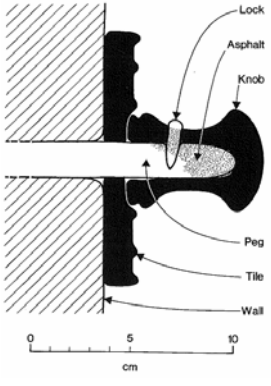


Fig. 5 (left). The glazed terracotta bull with inscription TZ 53A from the north-eastern gate of the ziggurat of Chogha Zanbil, now in the National Museum of Iran, Tehran (photo by Gian Pietro Basello).

Fig. 6 (right). Detail of TZ 53A, lines 1-7. mu-ši-a is written on line 3 (photo by Gian Pietro Basello).



a



b

Fig. 7a-b. Reconstruction of tile knob and wall attachment:
a. From Chogha Zanbil (Ghirshman 1966: 75, fig. 44);
b. From Tall-e Malian (Carter 1996: fig. 31).

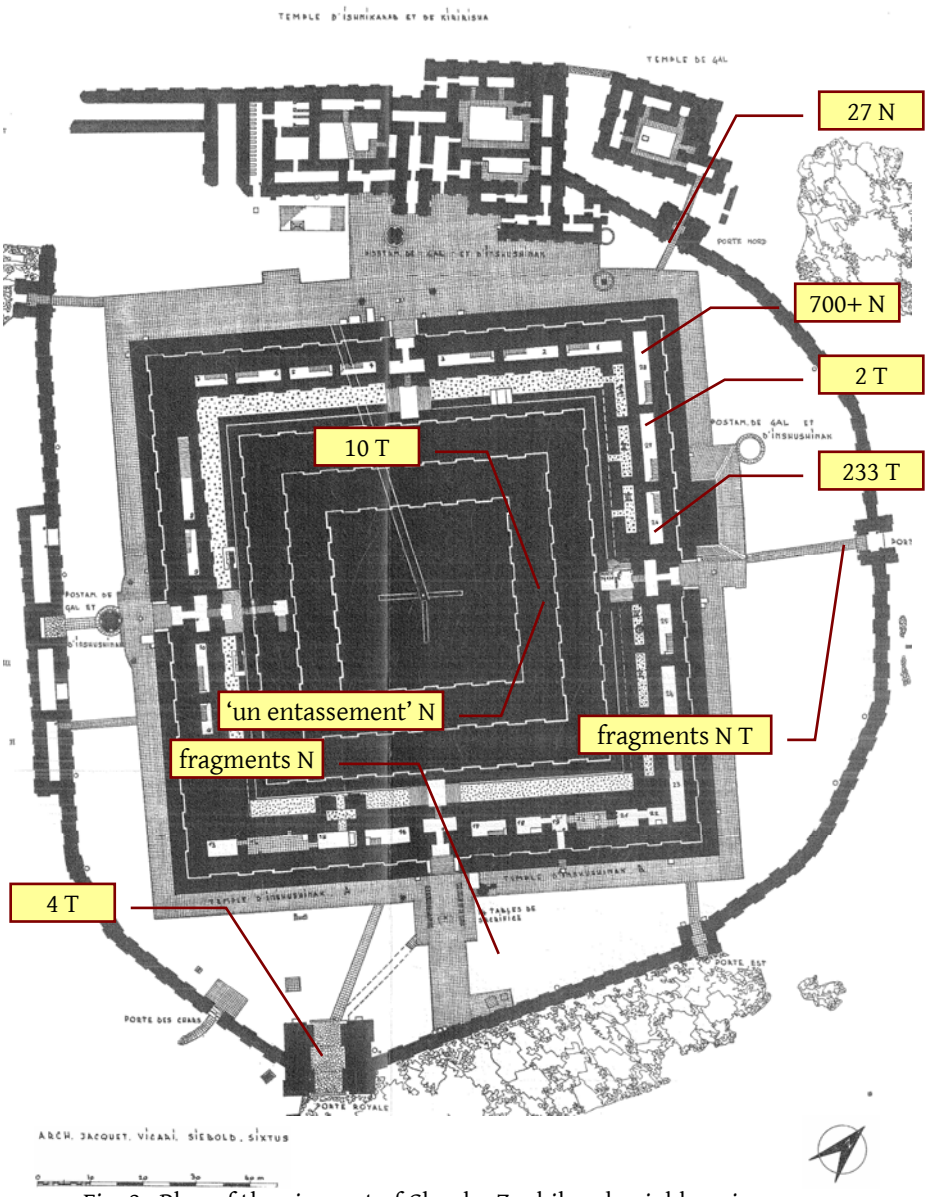


Fig. 8. Plan of the ziggurat of Chogha Zanbil and neighbouring areas (Ghirshman 1966: plan III) with the known find spots of nail (N) and tile (T) knobs.

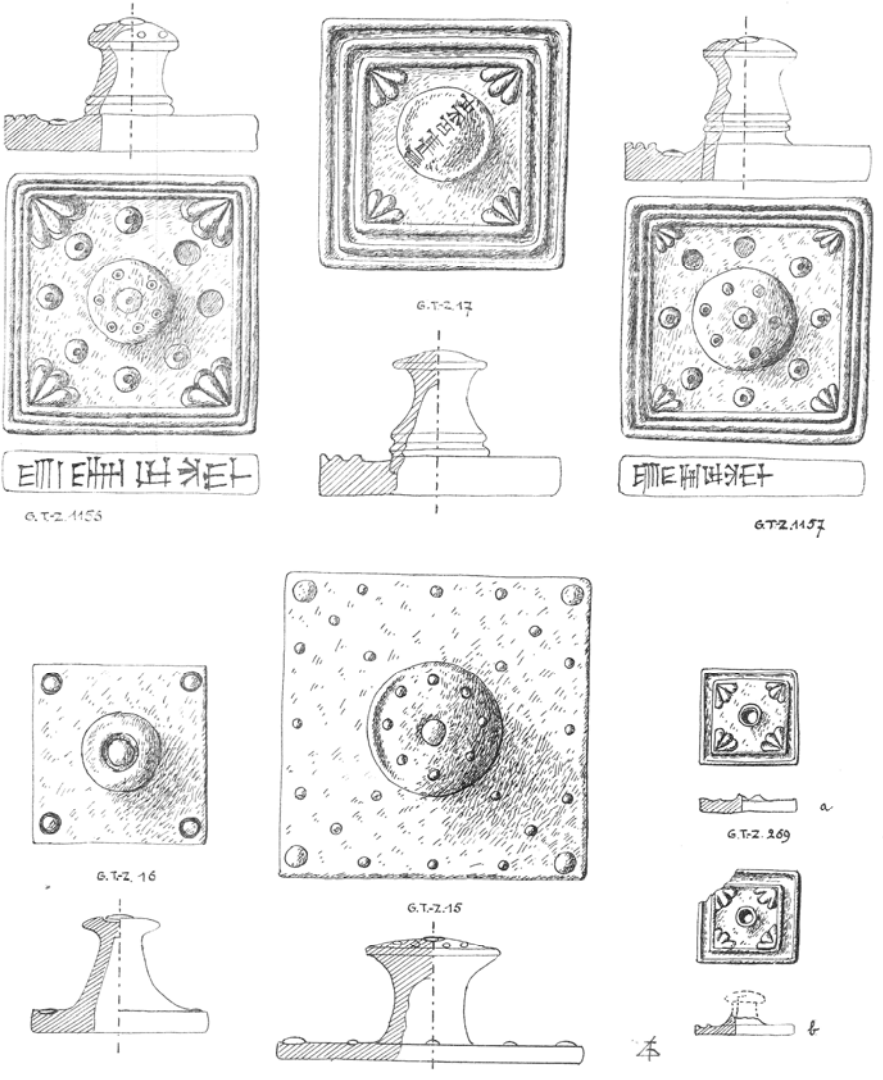


Fig. 9. Tile knobs from Chogha Zanbil
(Ghirshman 1966: pl. XCVII).

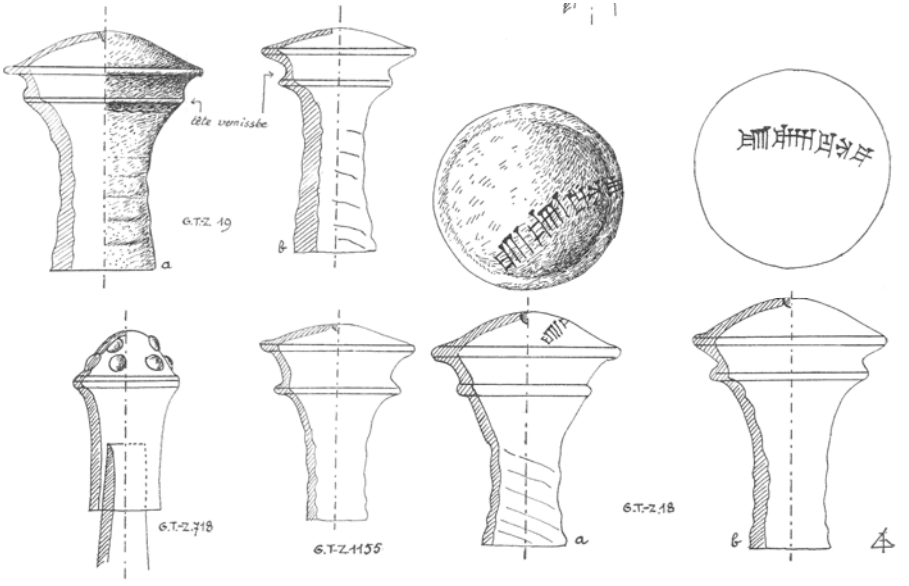


Fig. 10. Nail knobs from Chogha Zanbil (Ghirshman 1966: pl. XCVIII).



Fig. 11. Heap of nail knobs blocking the north gate of the inner circle of wall of Chogha Zanbil (Ghirshman 1966: pl. XLIX.1).



Fig. 12. Heap of nail knobs on the north-east slope of the ziggurat of Chogha Zanbil (Ghirshman 1966: pl. XIX.1).

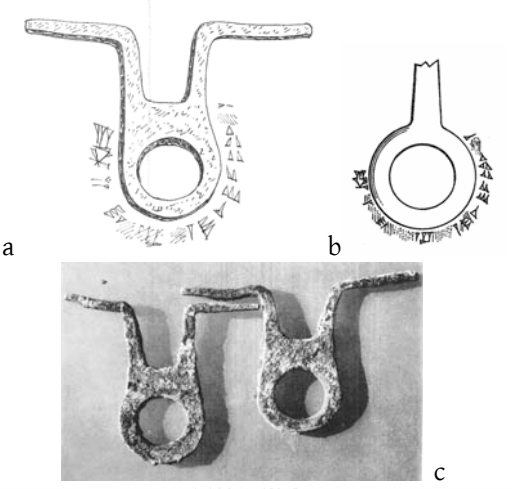


Fig. 13a-d. Bronze locks, maybe for latches, from Chogha Zanbil:
a. Ghirshman 1966: pl. XCVIII; b. Steve 1967: 113, TZ VIIIa;
c-d. Ghirshman 1966: pl. XXXVI.2-4.

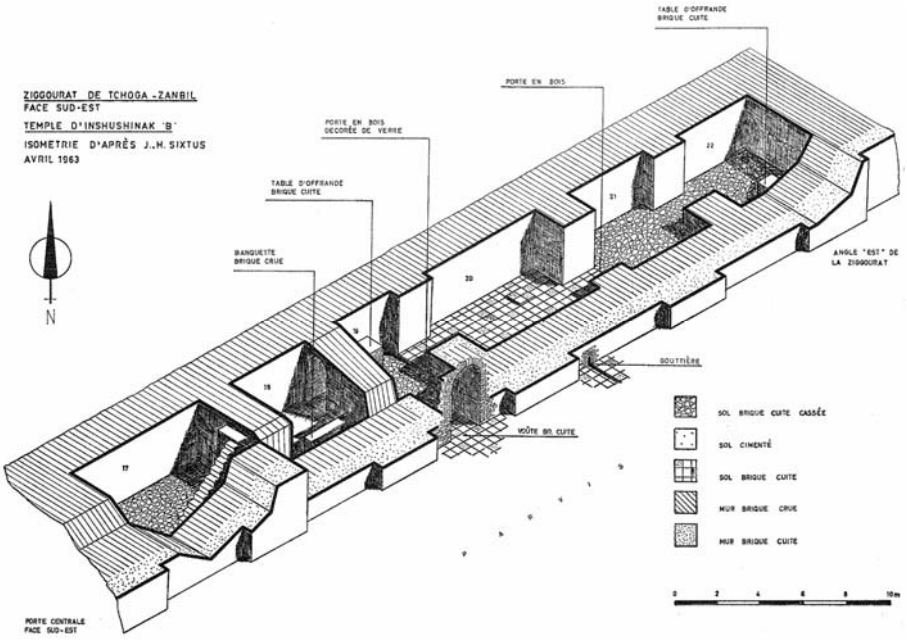


Fig. 14. The so-called Temple B of Inshushinak at the foot of the ziggurat of Chogha Zanbil (Ghirshman 1966: 36, fig. 25).

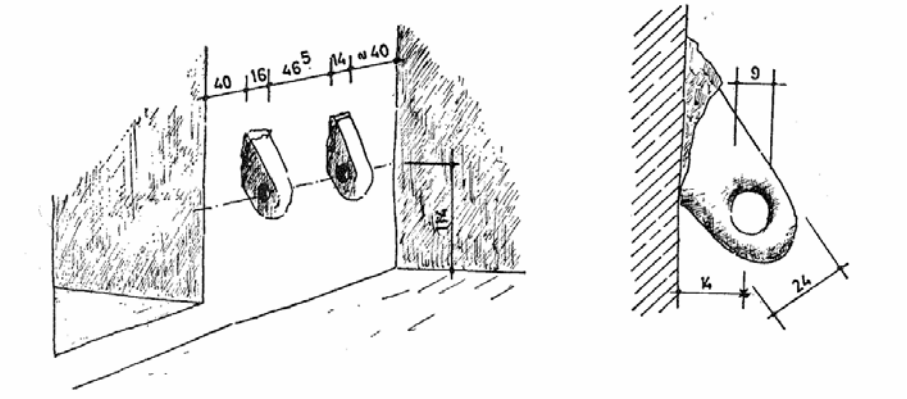


Fig. 15. The locking device in room 21 (Ghirshman 1966: 33, fig. 23).

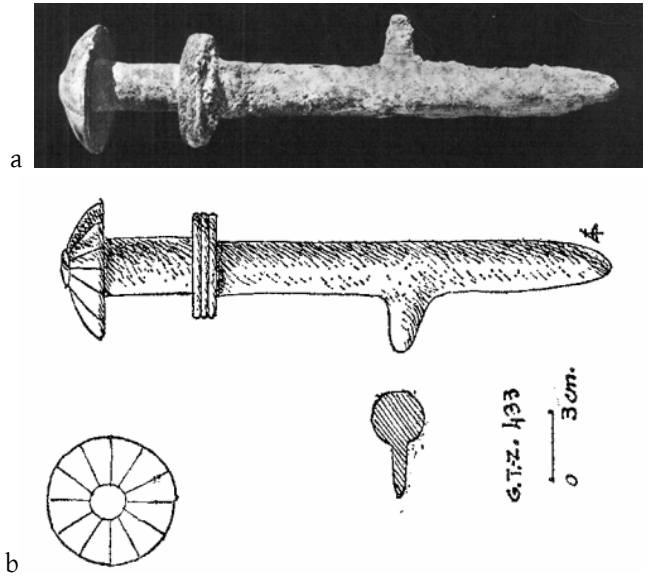


Fig. 16a-b. The bronze peg G.T.Z. 433 from the doorway between rooms 20-21 of the ziggurat of Chogha Zanbil: a. Ghirshman 1966: pl. XXV.5; b. Ghirshman 1966: 32, fig. 22.



Fig. 17. Tile with central hole and inscription of Shutruk-Nahunte (II) from Susa (Jéquier 1900: pl. VI).



Fig. 18. Inscribed and anepigraphical glazed knobs from Susa (Lampre 1900: pl. IV). The inscribed one is Sb 700.



a. Sb 700



b. Sb 723



c. Sb 691



d

Fig. 19a-d. Glazed knobs from Susa, now in the Louvre Museum (not to scale): a-c. *Atlas base des oeuvres exposées*, <http://cartelfr.louvre.fr>; d. Scheil 1913: pl. XIV.

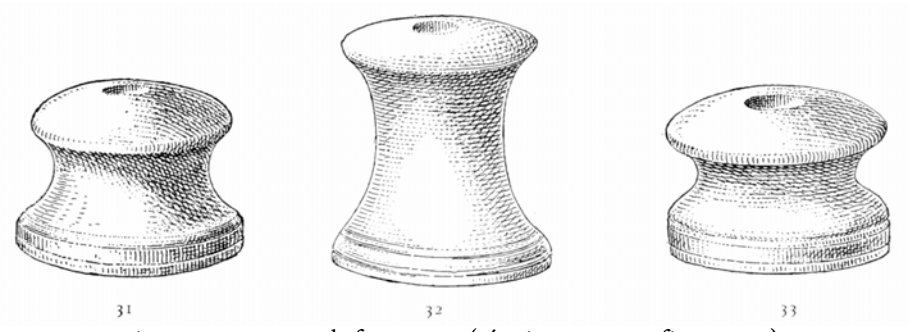
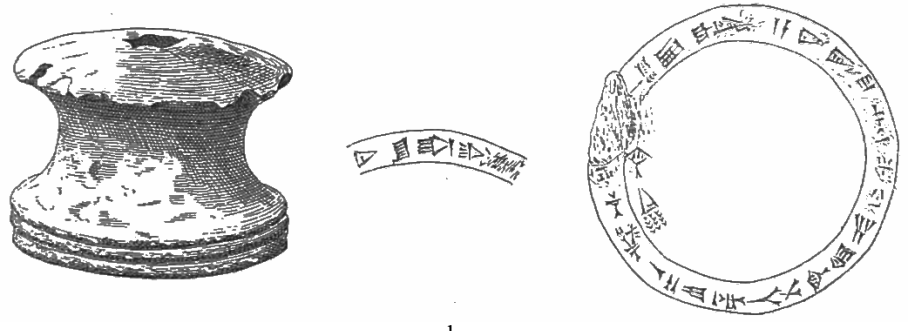
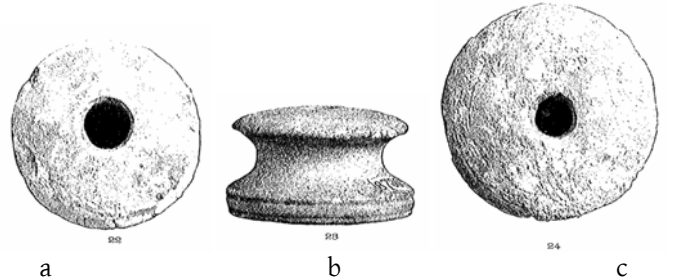


Fig. 20. Stone spools from Susa (Jéquier 1905: 33, figs. 31-33).



a b c

Fig. 21a-c. Spool from Susa (a) with inscription of a Kassite king (c); extant part of a similar inscription (b) on another spool (Scheil 1913: 32).



a b c

Fig. 22a-c. Spools from Nippur (Hilprecht 1893: pl. X.22-24):
a, c. Magnesite, top view, inscriptions of Nazi-Maruttash (Hilprecht 1893: nos. 57 and 56);
b. Ivory, side view, inscription of Burnaburiash (Hilprecht 1893: no. 34).



a

b

Fig. 23a-b. The spool H.T. 151 with the name of Adad-Erish from Haft Tappeh: a. Negahban 1991: pl. 57, no. 492; b. Negahban 1991: 106.

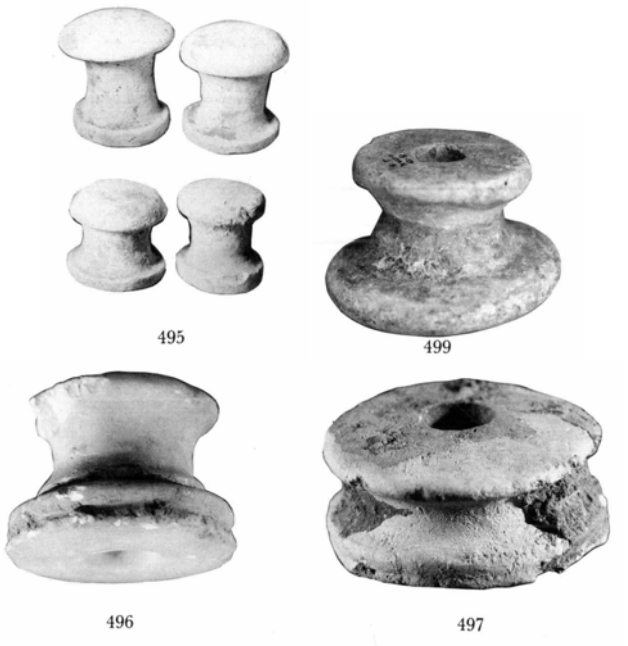
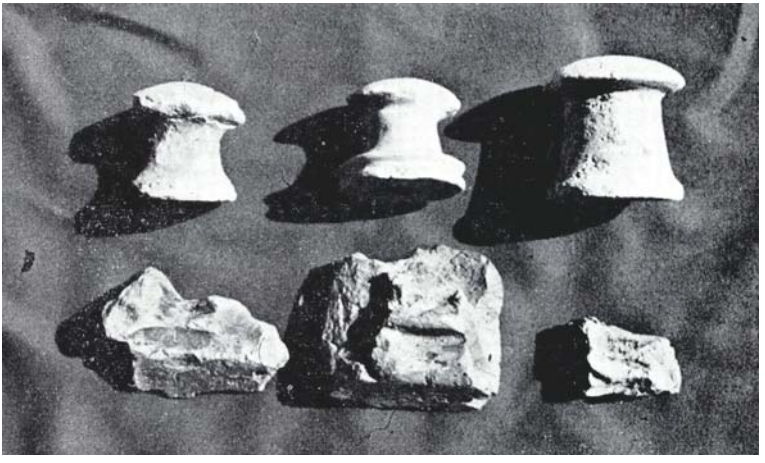


Fig. 24. Spools from Haft Tappeh (Negahban 1991: pl. 58).

a



b

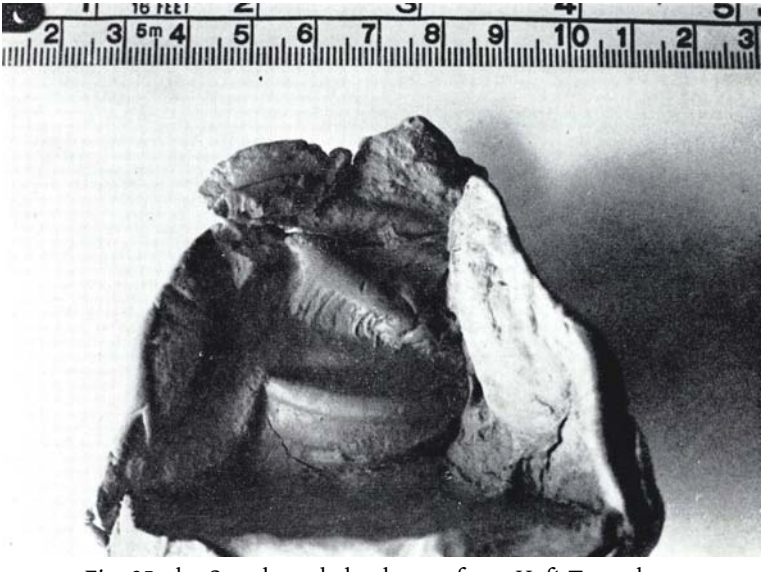


Fig. 25a-b. Spools and clay lumps from Haft Tappeh (Ferioli & Fiandra 1979: pl. XIX, figs. 4-5):
b. Detail of a clay lump with sealing.

a   b

c 

Fig. 26a-c. The architectural model Mul. 168 = RC 2084
in the Rosicrucian Egyptian Museum, San Jose, California
(courtesy of the Rosicrucian Egyptian Museum):
a-b. Photos by Nestor Nunez;
c. Photo of the Rosicrucian Egyptian Museum.

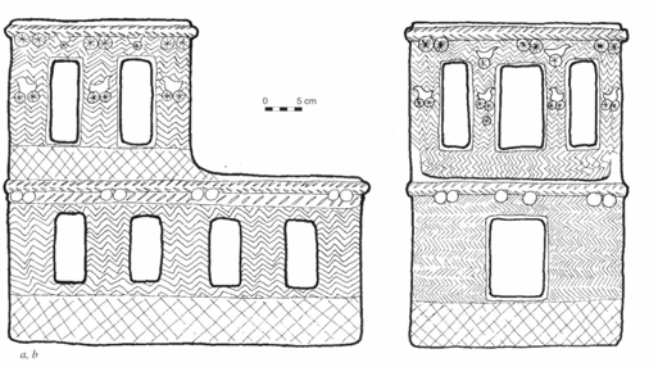


Fig. 27. The architectural model Mul. 168 (Muller 2002: fig. 168a-b).

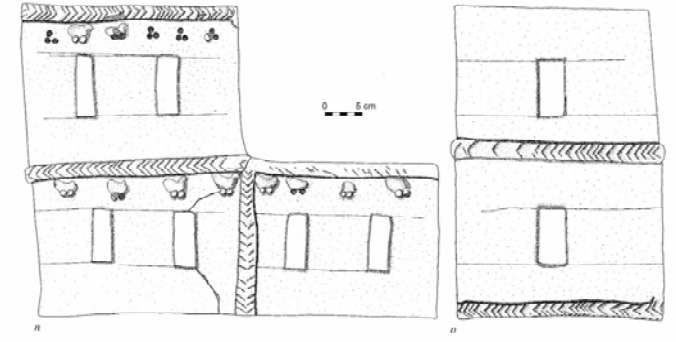


Fig. 28. The architectural model Mul. 171 (Muller 2002: fig. 171n-o).

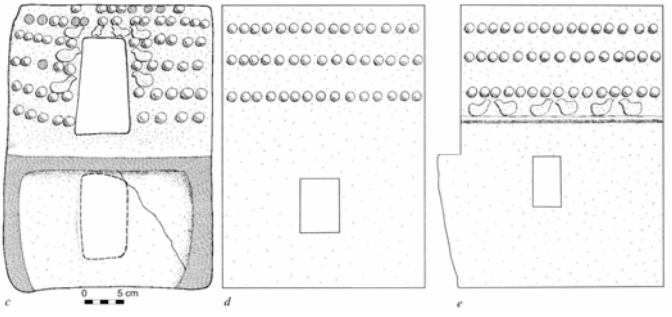


Fig. 29. The architectural model Mul. 173 (Muller 2002: fig. 173c-e).

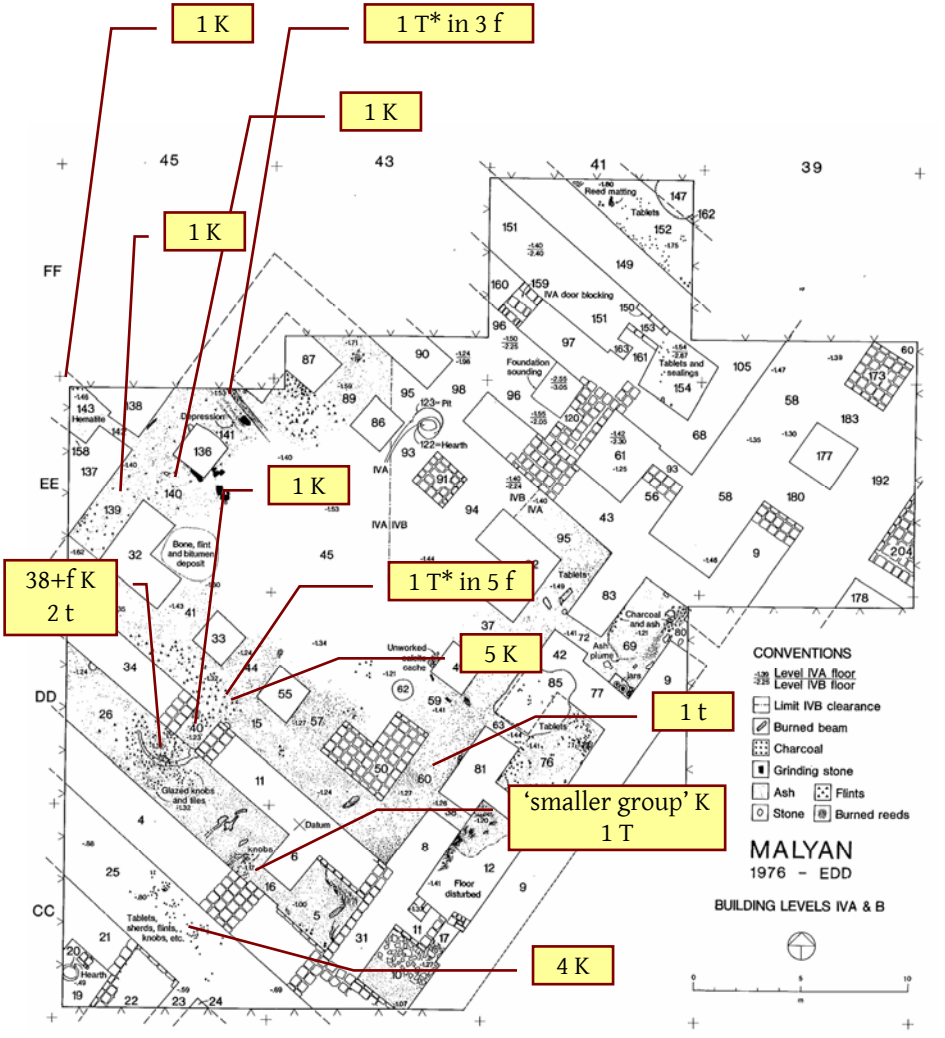


Fig. 30. Plan of levels IVA and B of the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 9) with find spots of knobs (K) and tiles (T: large format; t: small format) (f: fragments; *: probably the same tile).

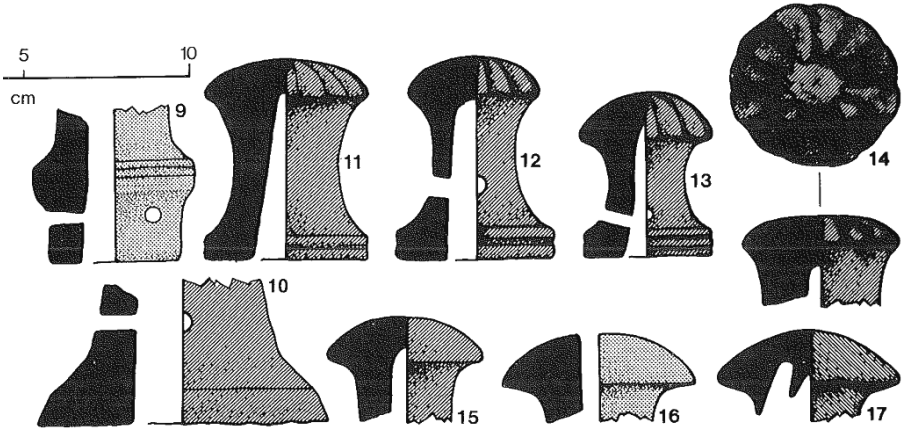


Fig. 31. Knobs from the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 30.9-17).

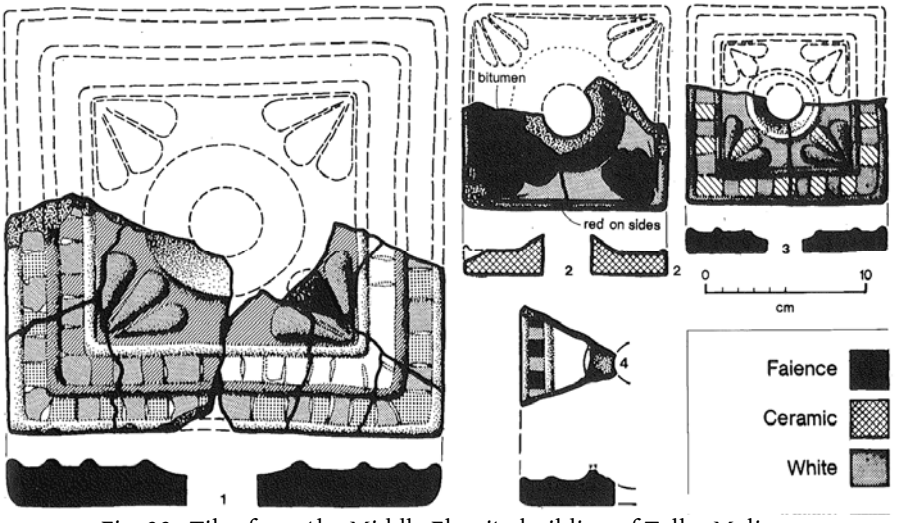


Fig. 32. Tiles from the Middle Elamite building of Tall-e Malian (Carter 1996: fig. 30.1-4).

a



b



c



Fig. 33a-c. The disc with inscription DPi[a] from Persepolis, now in the National Museum of Iran, Tehran (photos by Gian Pietro Basello, courtesy of the National Museum of Iran): b. Detail of the inscription; c. Top.

a



b





c

Fig. 34a-c. Bottom and side views of the disc with inscription DPi^{c} from Persepolis, now in the National Museum of Iran, Tehran
(photos by Gian Pietro Basello, courtesy of the National Museum of Iran).

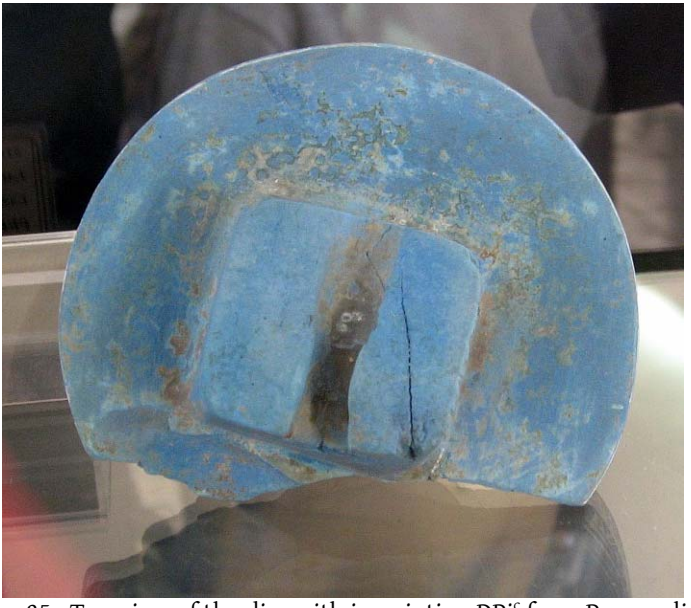


Fig. 35. Top view of the disc with inscription DPi[c] from Persepolis, now in the National Museum of Iran, Tehran (photo by Gian Pietro Basello, courtesy of the National Museum of Iran).



Fig. 36. Knob and disc with inscription DPi[d] from Persepolis, now in the Oriental Institute Museum, Chicago (photo by Alexander Nagel, courtesy of the Oriental Institute of the University of Chicago).